

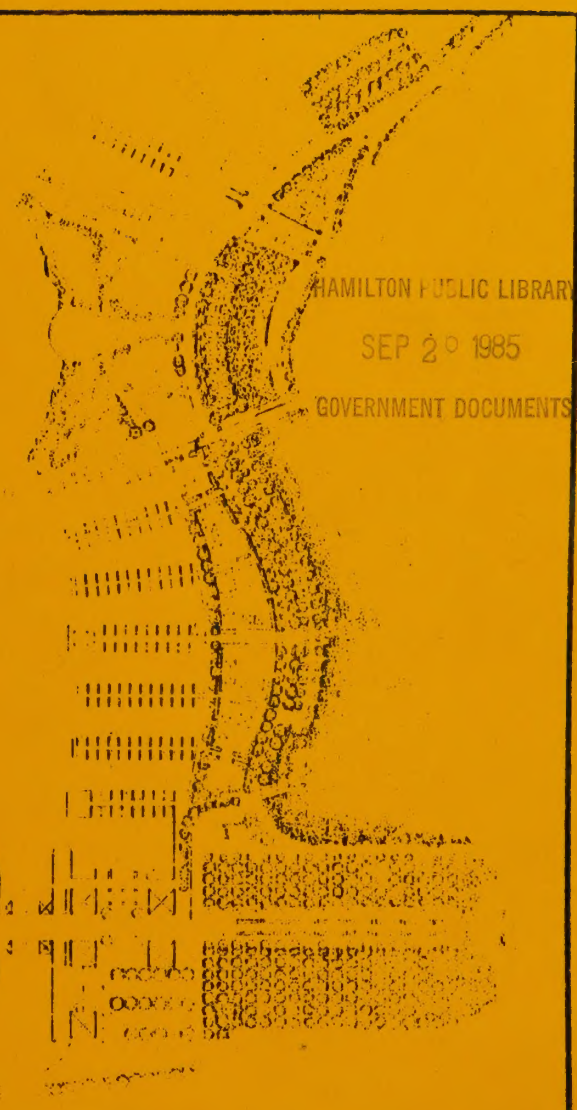
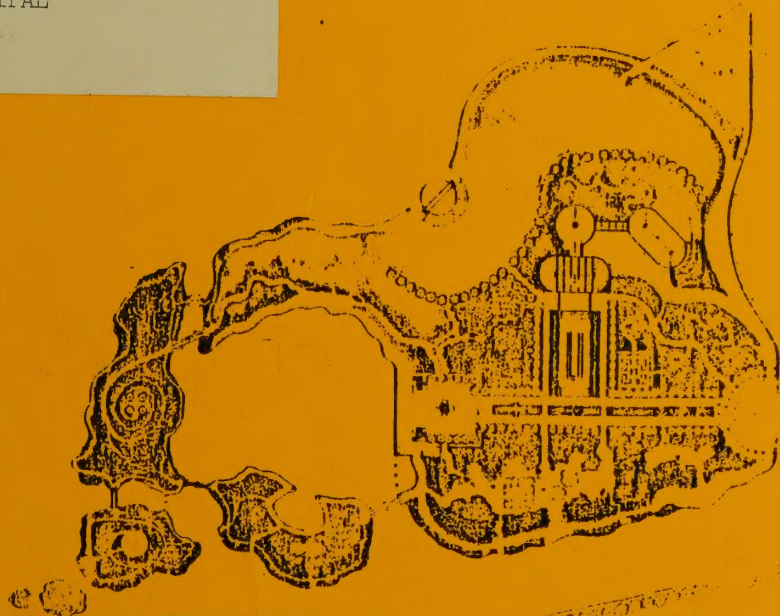
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Corporation of the City of Hamilton

HAMILTON WATERFRONT MASTER PLAN

URBAN/MUNICIPAL



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CORPORATION OF THE CITY OF HAMILTON

Hamilton Waterfront Study

MASTER PLAN

September 1985

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in association with:

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(212) 586 7677

Alderman Bruce Charlton
Chairman
Waterfront Parks Advisory Sub-Committee
City of Hamilton
Hamilton, Ontario

Re: Hamilton Waterfront Master Plan

Dear Alderman Charlton,

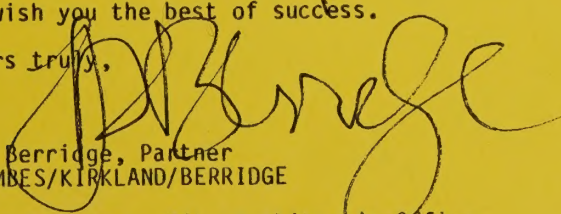
I am pleased to submit our final report containing the Master Plan for the Hamilton Waterfront.

The recommended plan for the waterfront represents a bold and exciting initiative for the city to undertake. Development of the waterfront will not only create a magnificent new amenity for the citizens of Hamilton and the region, it will contribute greatly to the goal of broadening the city's economic and tourism base.

Working on the waterfront plan has been an enjoyable and rewarding experience for all of us on the study team. We have been impressed by the enthusiasm and dedication of so many Hamiltonians in helping us determine the right future for this important new area of the city. Particular thanks must be extended to the Waterfront Parks Advisory Sub-Committee, who have devoted so much time and energy to the study process, and to you for your leadership and support. We are also greatly indebted to David Freeman and Jayne Tollafsen of the City Architect's Office for their unfailing assistance and creativity throughout the project.

We wish you the best of success.

Yours truly,


Joe Berridge, Partner
COOMBES/KIRKLAND/BERRIDGE

cc: David Freeman, City Architect's Office

ANTHONY C. COOMBES

J. MICHAEL KIRKLAND

JOE BERRIDGE

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2. The Hamilton Waterfront: Context and Opportunities
3. Waterfront Master Plan
4. Activities and Programs Plan
5. Economic and Cost Analysis
6. Traffic and Environmental Impacts

City wants to hear from you
on the future of Waterfront

A place for people
Back to the bay

It's safe to swim; there's talk of fishing
Hamilton harbor goes through a major metamorphosis

Now we've got Hamilton Island

Public welcome at forum

THE WATERFRONT Workshop runs April 13-15 at the Convention Centre.

Friday, April 12, is mainly for recreational, citizen and cultural groups. Everyone is invited to a public forum on Saturday morning at 9.30. The public is also welcome at the afternoon session which begins at 2 and will include a panel discussion with the Coombes, Kirkland and Berridge study team.

On Monday, April 15, from 7 p.m. to 9 p.m., everyone is invited to an illustrated wrap-up session put together by the consultants. For more information call 528-4604.

City searches for beauty on the bay
Hope for the harbor

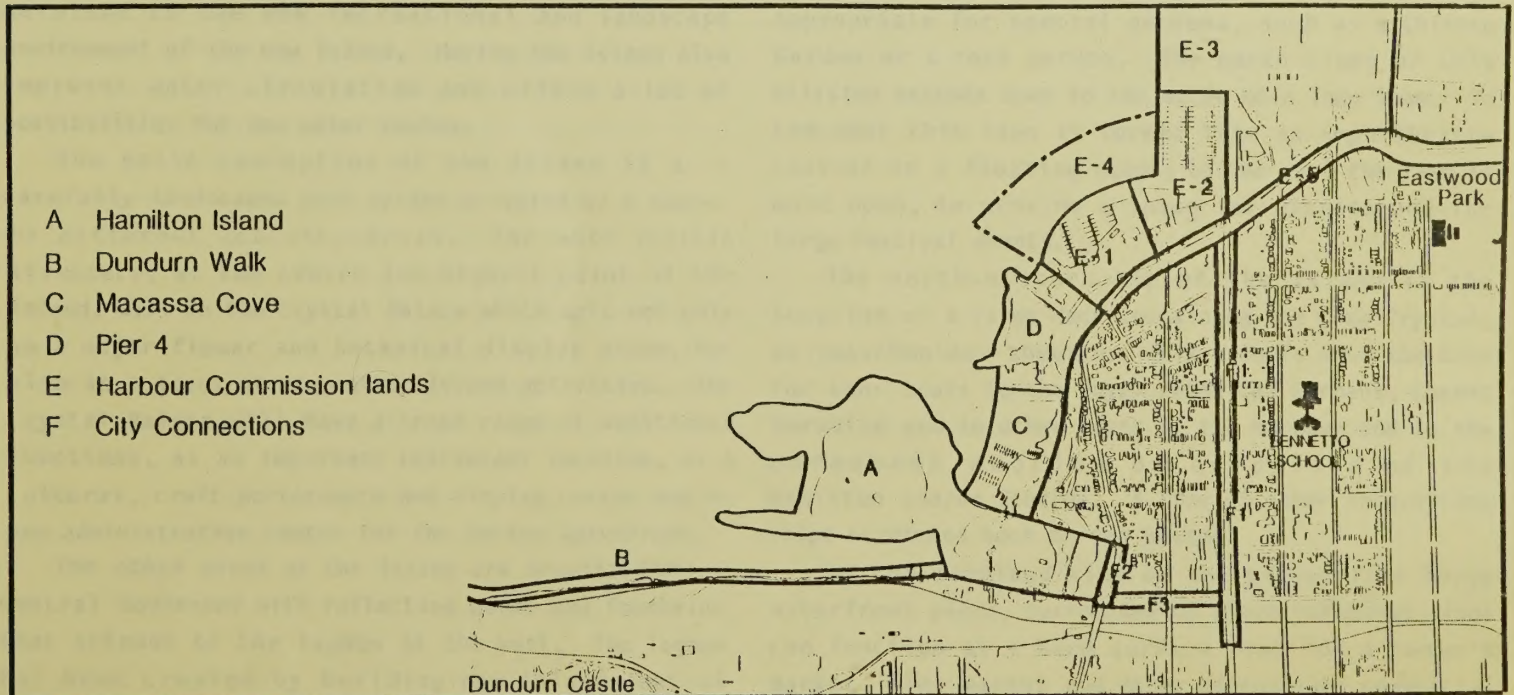
Summary 1.

Summary

The recommended master plan for the Hamilton Waterfront involves a major transformation of the central waterfront into an important new recreational amenity for Hamiltonians and for the region. This recommendation is made not only in order to increase the level of accessibility and usefulness of a waterfront that is now quite limited in its activity and image, but also because the development of a new waterfront environment will become an important element in broadening and developing the economic base

of the city.

The proposed plan consists of a significant physical change to the existing land forms in the waterfront and proposes extensive development of recreational facilities. As well as the physical master plan however, an activities and programs plan is proposed to guide the kinds of civic, cultural and recreational activities that should take place on the new waterfront. The proposals for the various sections of the waterfront are summarized as follows.



Hamilton Island

The major feature of the plan for the waterfront is the creation of a new island, "Hamilton Island", out of the Lax landfill area. The creation of the Island meets a number of objectives. It constitutes a major reconfiguration of the existing landform, and thus an opportunity to completely restructure the current impression that Hamiltonians and others have of this part of the harbour. Crossing the bridge to the Island will be an important symbolic action, representing the change from the normal world of the mainland to the new recreational and landscape environment of the new Island. Having the Island also improves water circulation and offers a lot of possibilities for new water routes.

The basic conception of the Island is as a carefully landscaped park garden occupied by a number of different activity areas. The most visible structure, at the centre and highest point of the Island, will be the Crystal Palace which acts not only as a major flower and botanical display place, but also as a focus of many other Island activities. The Crystal Palace will have a broad range of additional functions, as an important restaurant location, as a cultural, craft performance and display centre and as the administrative centre for the entire waterfront.

The other areas of the Island are organized off a central boulevard with reflecting ponds and fountains that extends to the lagoon at the west. The lagoon has been created by building new islands out of

landfill to enclose the existing water area. This new lagoon has a number of uses, as a swimming area in treated water in summer and in winter as a very large skating area. The little islands themselves are interestingly landscaped, with look-outs, grottos and interesting bridges and connections.

To the south of the central boulevard is a children's play area in a clearing in the woods, that connects to a children's water play area beside the lagoon.

To the north of the boulevard is a large hillside area of tree planting that contains clearings appropriate for special gardens, such as a Chinese Garden or a rose garden. The north slope of this hillside extends down to the water on a long lawn. To the west this lawn is formed into an amphitheatre centred on a floating stage; to the east the lawn is more open, to provide a space for picnics and for large festival events.

The north-eastern tip of the Island is the location of a large deck containing the Cine Crystal, an Imax/Omnimax theatre. This area is also the base for tour boats to the Royal Botanical Gardens, Cootes Paradise and to other parts of the harbour and is the permanent mooring of a replica of the Hamilton and/or Scourge. A line of other interesting ships stretches back to the bridge.

On the mainland side of the bridge is a large waterfront plaza, surrounded by plaza buildings, that can function as a hard surface area for a farmer's market, flea market and other appropriate commercial

activities and events such as a boat show. The Island is conceived as a year-round recreational facility, with free public access at all times other than on exceptional special occasions. Parking is principally provided in a major lot east of the bridge. The Island, and all other sections of the waterfront, would be accessible to the handicapped.

Dundurn Walk

The area south of the Island is called "Dundurn Walk". While no property is in public ownership here, an extended waterfront walk should nonetheless be created, connecting the active parts of the waterfront to Dundurn Castle and around into Cootes Paradise.

The waterfront walk would start with the canoe and bicycle rental and boat launch areas. For most of the section opposite the Island a floating boardwalk is proposed, standing off from the land in order to restrict access to the C.N. Yards in general and the hazard line along the northern edge of the yards in particular. The floating boardwalk would be designed to pitch in response to weight and waves but not to roll.

The walk would continue around at the water level and go through the Desjardins Canal to connect to Cootes Paradise and Princess Point.

Macassa Cove

"Macassa Cove" is the name for the water and marina area, enlarged from its current size, between the Island and the bluff of the North End neighbourhood. This area is dedicated principally to boating and marine activities. The number of slips has been considerably increased to provide space for the existing yacht clubs and a substantially enlarged marina.

The basic structure of this area is given by a continuous public waterfront promenade running along the water's edge between the Island and Pier 4. The finger piers run out into Macassa Cove on the west of the promenade and to the east are development areas for present and future marine uses. These uses in turn are serviced by a waterfront drive, that provides parking and service access as well as creating a clear and continuous connection to the Island parking lot. Pedestrian connections would be made up the bluff to the North End neighbourhood.

Pump-out, gas pumps and marina stores would be located at the northern end of Macassa Cove. A significant number of moorings would be reserved for visiting boats.

Pier 4

Pier 4 is designed as a largely passive park area, as a counterpoint to the busy activity to the south and the potentially developed area to the north.

The waterfront walk would continue through the park as would the waterfront drive at the base of the bluffs. To protect the park from the busy activity of the marina a high berm would be developed on the south side with a look-out at its western end, complementing the look-out on the Island. In the centre of the Pier 4 water's edge a paddling pool/fountain has been created.

The Leander Building provides the activities that structure the northern area of Pier 4. This building would become an aquatic centre, still containing its present uses but with a greatly expanded utilization of its second floor. The aquatic centre would provide water safety and boating education to school children and adults alike as well as becoming a general centre for supporting and promoting water recreation.

Harbour Commission Land

The Hamilton Harbour Commission are the owners of the waterfront lands north of Pier 4. This area, while now in yacht club, marina or shipping use, constitutes the most appropriate future location for major residential and commercial development. The key to the successful future of this area will be the

careful management of the transition from these uses to a more intense form of urban waterfront development.

The Harbour Commission lands have currently different levels and types of use. The main commercial shipping areas are located on Pier 8, while Piers 6 and 7 are used for the marina, sailing school and other Commission activities. Pier 5 is the headquarters of the Hamilton Yacht Club. The basic strategy proposed is therefore that new urban development occur from the south to the north, giving the Commission an opportunity to reorganize their existing uses and to assess market trends. Certainly as far as Pier 8 is concerned, no precipitous moves should be made that threaten the current employment provided by commercial shipping. In the long run however there is little doubt in terms of the health of the regional economy that both employment opportunities and the tax base would be increased by promoting more intensive use of this valuable and prominent site. The Commission should therefore review on an ongoing basis the relative costs and benefits of relocating the current shipping activities to the East Port or other appropriate harbour locations.

This area of the waterfront also constitutes the best and most available location for the development of a major new marina. If and when such demand develops the Harbour Commission should actively pursue the construction of a new breakwater running north from Pier 5.

City Connections

One of the most important goals in any development of the waterfront must be its close connection to the rest of the city. The waterfront, and the Lax Property in particular, is now remote and unseen, with no clearly perceived or simple routes to other parts of the city and region.

The proposed strategy of the Plan is to identify and upgrade certain of the major connections and to establish them as the understood ways of arrival and departure to and from the waterfront.

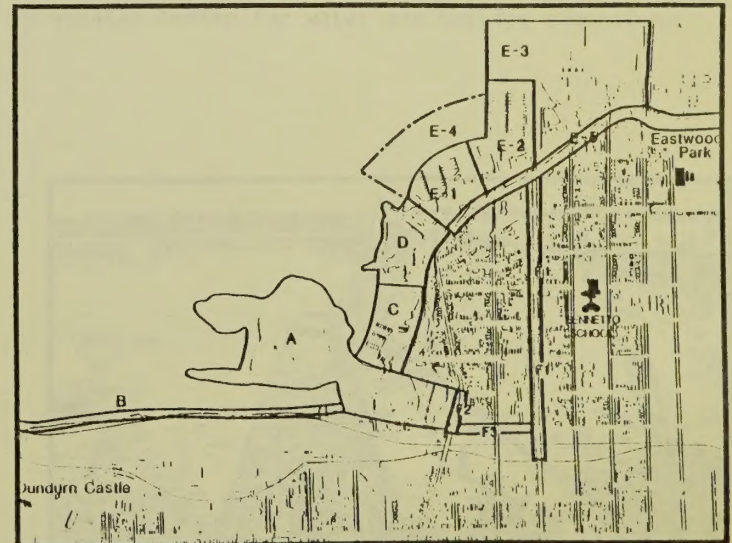
James St. North, as the principle north/south street of the city, should become the principle connector between the downtown and the waterfront. Bay St., although a less attractive street, is nonetheless important for traffic handling and access. Dock Service Road/Guise St. is the important connection to the east and Burlington St.

These streets, and Strachan St. which will act as a distributor, should be specially identified through distinctive landscaping, signage and street furniture. They should also be made part of the bicycle path system that would link the waterfront to other city locations.

A corollary of these city connections is that the North End neighbourhood be isolated to the extent possible from the negative impact of traffic generated by the waterfront. The waterfront drive should go some distance to diverting such traffic away from the neighbourhood, but it is also important that the local

traffic management plan proposed for the area be implemented.

Much more use will have to be made of the transit connections to the downtown if the waterfront is to be a success. Initially a summer shuttle bus service should be tried and eventually a distinctive waterfront transit service created.



Activities and Program Plan

The complement to the proposed physical master plan is a plan of activities and programs that should take place on the waterfront. In general the Island should be a free of charge facility with operating costs made up through revenues from parking, food and drink concessions and rents and share of receipts from the intended commercial marina, boat rental and other operations.

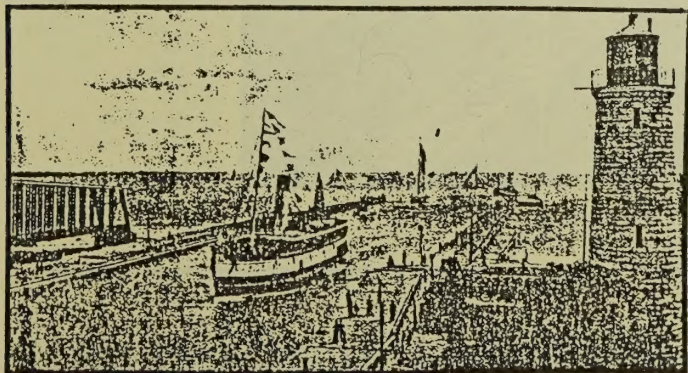
The site should become the principal locus of major public festivals and events in Hamilton, such as Canada Day, Labour Day and such similar events. Emphasis should also be put on promoting a major winter carnival. In addition smaller outdoor events from folk dancing to balloon races should be attracted. The performance area should be used for a wide range of musical and dramatic events.

Macassa Cove and the harbour should be programmed for marine and water-related activities such as boat

races, regattas and water-skiing as well as full of interesting ships and the Hamilton-Scourge replica.

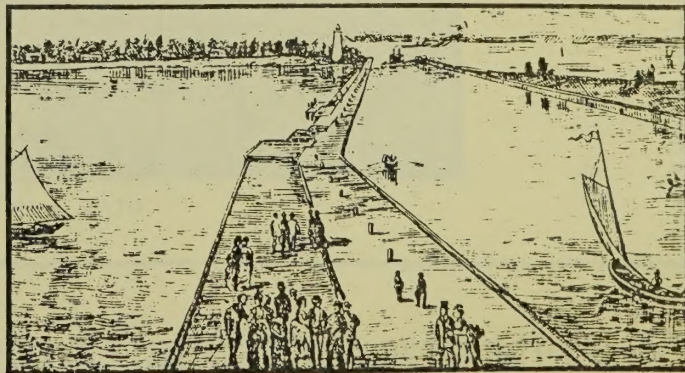
The City would promote the development of outdoor activities requiring close parking and road access on the waterfront plaza. These might include a weekly farmer's market and flea market as well as boat shows and other semi-commercial events.

The Crystal Palace, one of the major features of the Plan, should be thought of as not only a botanical display centre, but also as a focus for cultural, craft and artistic activity that supports the other activities on the Island. Specifically marine and water related activities should take place in the Leander Building which should be developed as an aquatic centre for water and boating education.

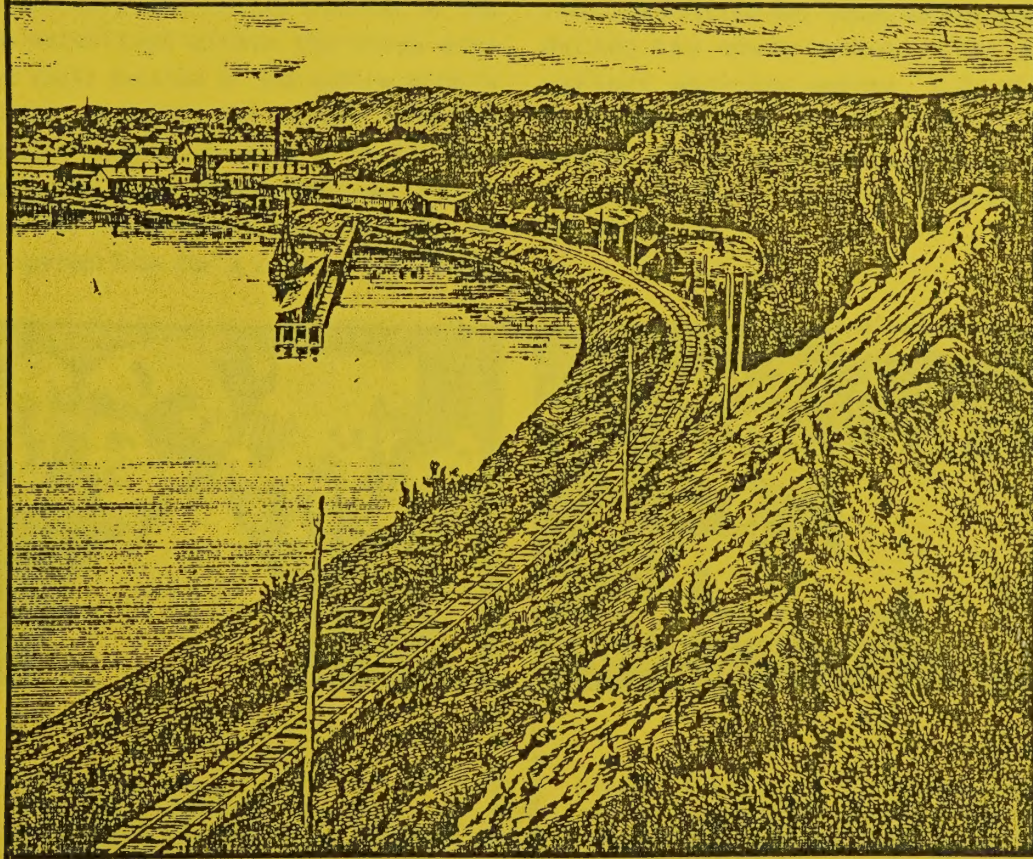


Hamilton Ontario

1893



1875



Hamilton Waterfront Site, 1870

The Hamilton Waterfront : Context and Opportunities 2.

Context and Opportunities

The proposed master plan for the Hamilton waterfront has been developed out of a process of analysing the geographic, economic and social context of the study area. The waterfront within the study area represents only a small section of the entire water's edge in the region. It is at the present time the most important section however, because it is the only area of the waterfront close to the downtown that is readily available for development into the kind of urban waterfront appropriate for a city of Hamilton's

size and importance.

A clear interest and enthusiasm for a major waterfront initiative was shown by the citizens of Hamilton during the study process. The attendance at the various workshop events, T.V. phone-in shows and public committee meetings that were held during the course of the study demonstrated a strong desire to take advantage of the opportunity presented by the waterfront.



*Waterfront Workshop, Saturday, April 18th
From left to right: George Hamilton, Chairman
of the Crystal Palace Committee; Michael
Kirkland, Principal, Coombes/Kirkland/Berridge;
Betty Dean, Resident attending the workshop
(centre foreground); Ann Tindal, Director of
Programming, Harbourfront; and Maggie Fischbuch
North End Resident and member of the Waterfront
Sub-Committee.*



*Detlef Mertins of the Coombes/Kirkland/Berridge
team, chairs a discussion group with members of
organizations currently operating active
facilities on the waterfront, including Sailing
Schools, Marinas, Yacht Clubs and other
activities.*

There are a number of reasons why the opportunity presented by the waterfront should now be grasped. Although the City has acquired the Lax lands, their inaccessibility and the problems of soil toxicity mean that they have in their present condition an extremely limited usefulness. In addition, the site is eroding under harbour wave action. The Lax property cannot therefore be left for long in its present state. It will require a major capital investment merely to make it safe and stable.

This opportunity to undertake a major development initiative on the Lax lands has important implications for adjacent areas of the waterfront. While the yacht clubs, marina and Hamilton Harbour Commission activities are important features of the waterfront, they are limited in their general attractiveness and accessibility for Hamiltonians in general.

The objective of opening up the entire waterfront will therefore be greatly assisted by undertaking a significant development on the Lax lands.



Ann Tindal and Margaret Ishii chair a discussion group with representatives of arts organizations, cultural groups, resident associations and local residents. In the rear one can see other discussion groups in progress at the Chedoke Room of the Hamilton Convention Centre.

While the basic objective for a waterfront initiative therefore remains the creation of a new attractive amenity area for Hamilton, the economic development impacts must not be understated. Development of a well-known and interesting waterfront will play an important role in assisting and symbolising the transformation of the regional economy away from its traditional heavy industrial base towards a more service-oriented structure. A new waterfront will of itself generate significantly increased tourism expenditures in the region.

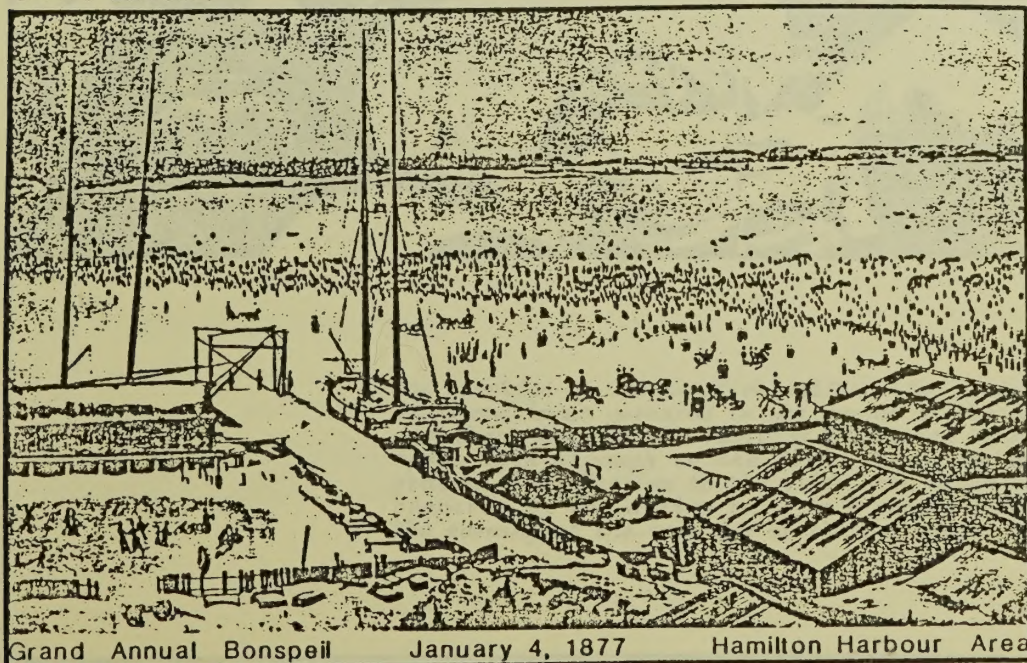
As important however will be the image of the new waterfront as part of a promotional campaign to attract new office and service sector employment to Hamilton. To a significant extent such private and public sector activities are influenced in their locational decisions by life style and amenity considerations. The new waterfront, combined with the important recent improvements to the downtown, will go a long way towards renewing the regional and national perception of Hamilton as a place to live and work.

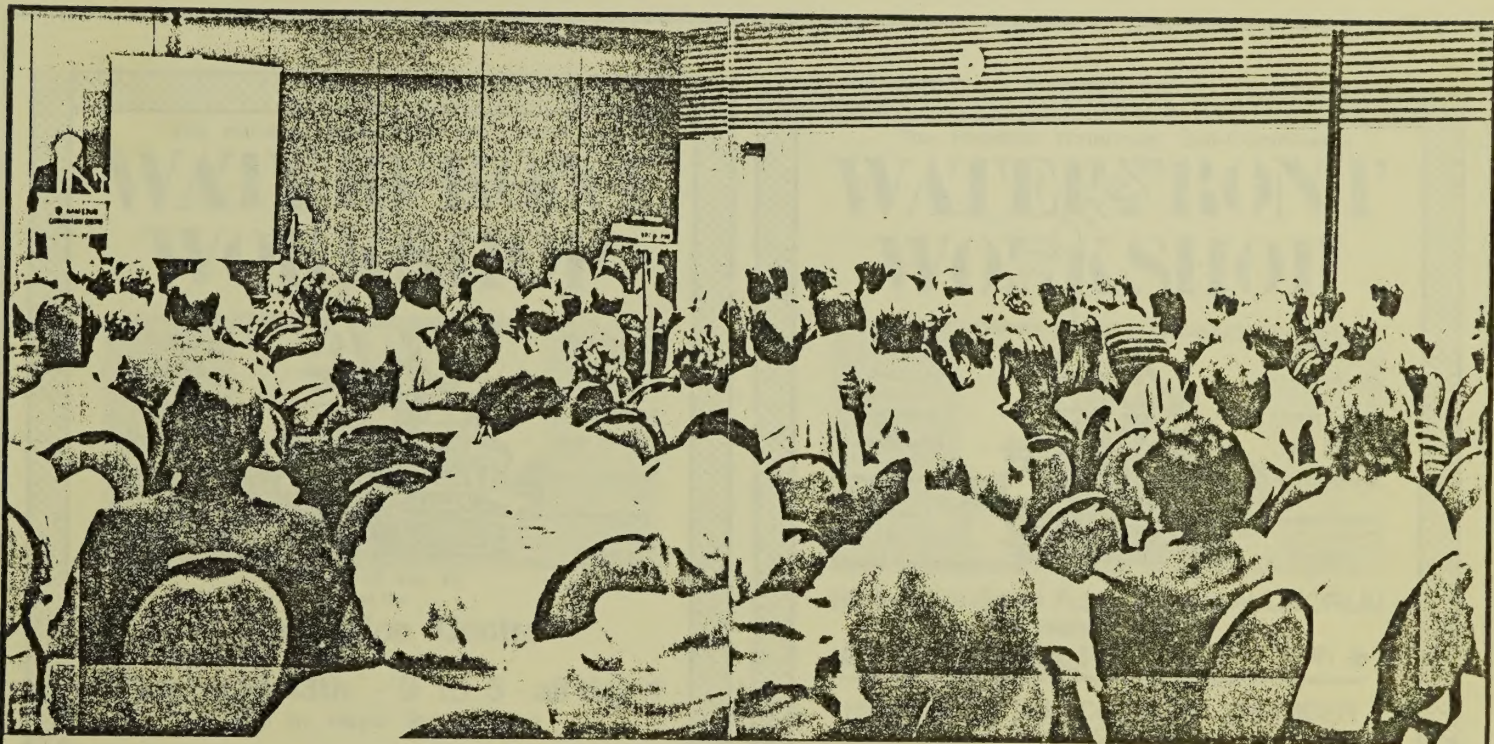
The scale and importance of the opportunity



Joe Berridge and Leo de Sorcy chair a discussion group with representatives of business interests, including representatives of the Chamber of Commerce. At the table sit representatives of the Longshoreman's Union, the Downtown B.I.A. and other business interests including local industries and organizations.

presented by the waterfront demand a bold response. Neither the reality nor the image of the waterfront will be transformed if timid and incomplete actions are stretched over an extended time period. The City should attempt to substantially complete the Master Plan proposals within the next 5-7 years. In later phases emphasis should be put upon achieving the desired levels of private commercial investment as a complement to that initial public commitment. In many ways indeed the master plan should be regarded as a first move, a move designed to provoke and stimulate waterfront redevelopment and improvement around the entire harbour.

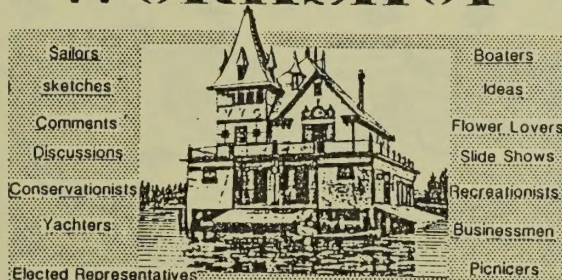




Joe Berridge of Coombes/Kirkland/Berridge presents the ideas and input gathered in the course of the four day workshop, held at the Hamilton Convention Center from April 12th through to the 15th. Here, Joe begins a general introduction to the slide show which had been prepared by the design team, to a packed audience on the evening of the last day of the workshop.

The Hamilton Waterfront Sub-Committee's

WATERFRONT WORKSHOP



APRIL 12 thru 15
at the

Convention Centre

★ Sat. April 13th - 9 to 5 - all day ★

Hosted by Mayor Bob Morrow

presentations public discussions, refreshments, and recital

★ Mon. Night April 15th - 7 to 9 p.m. ★

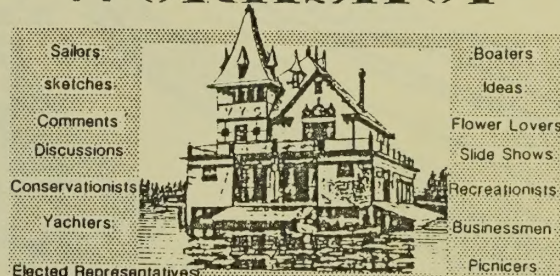
Come and dream about the future and possibilities for the Waterfront

Everyone Welcome!

for information call 526-4604

The Hamilton Waterfront Sub-Committee's

WATERFRONT WORKSHOP



BENNETTO Senior Public School AUDITORIUM
444 Hughson St. North

★ 7:30 p.m. THURS. JULY 25th ★

Hamilton City Hall COUNCIL CHAMBER
71 Main St. West

★ 8:00 p.m. MON. JULY 29th ★

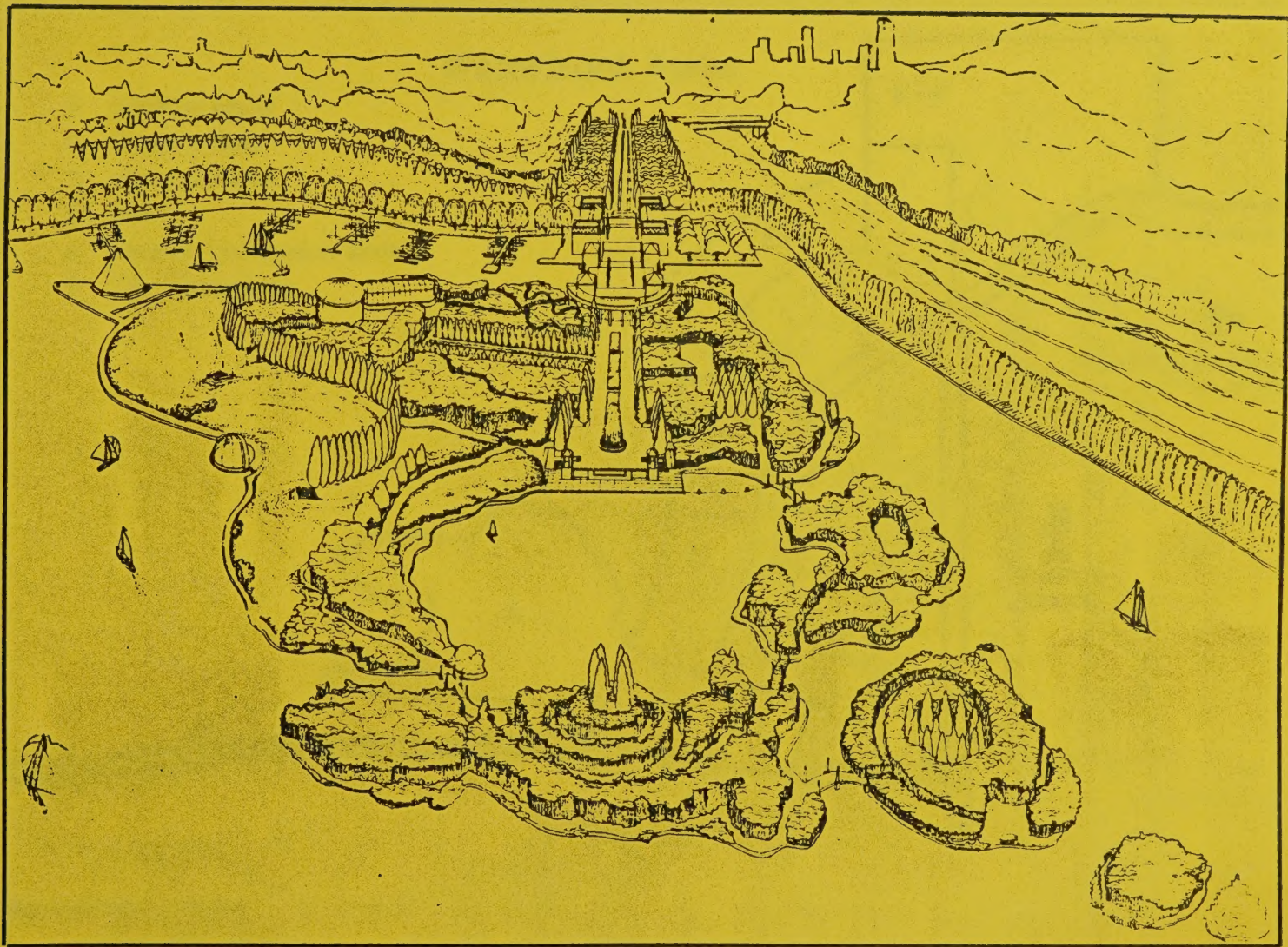
8:00 p.m. on Cable 4 Mon. Night

Come and dream about the future and possibilities for the Waterfront

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for information call 526-4604

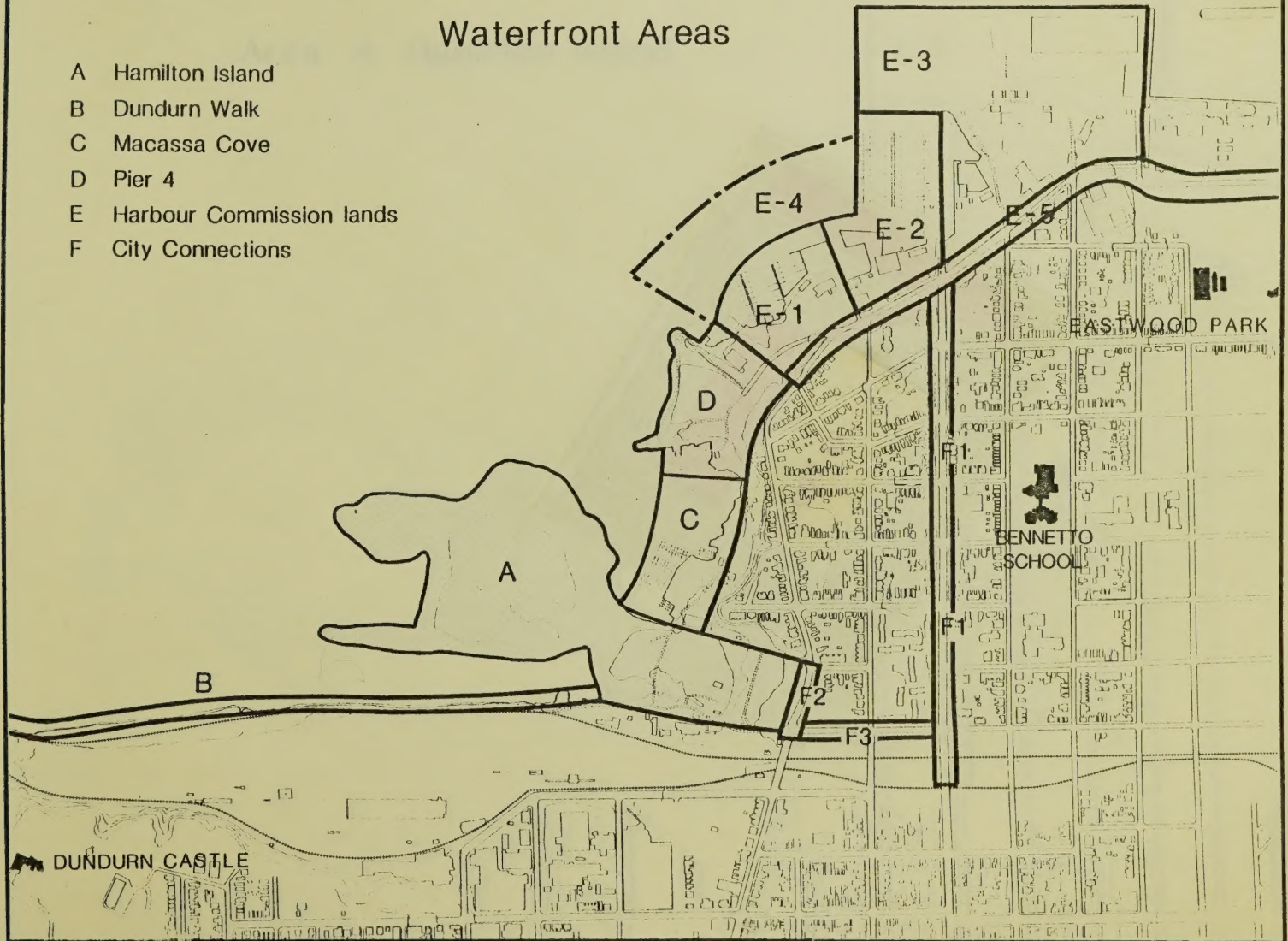
Thousands of flyers announcing the public Waterfront Workshop were distributed by the City of Hamilton Architect's Department to various departments, libraries, community newspapers and the mailing lists of the North End Breeze as well as the Hamilton Scourge.



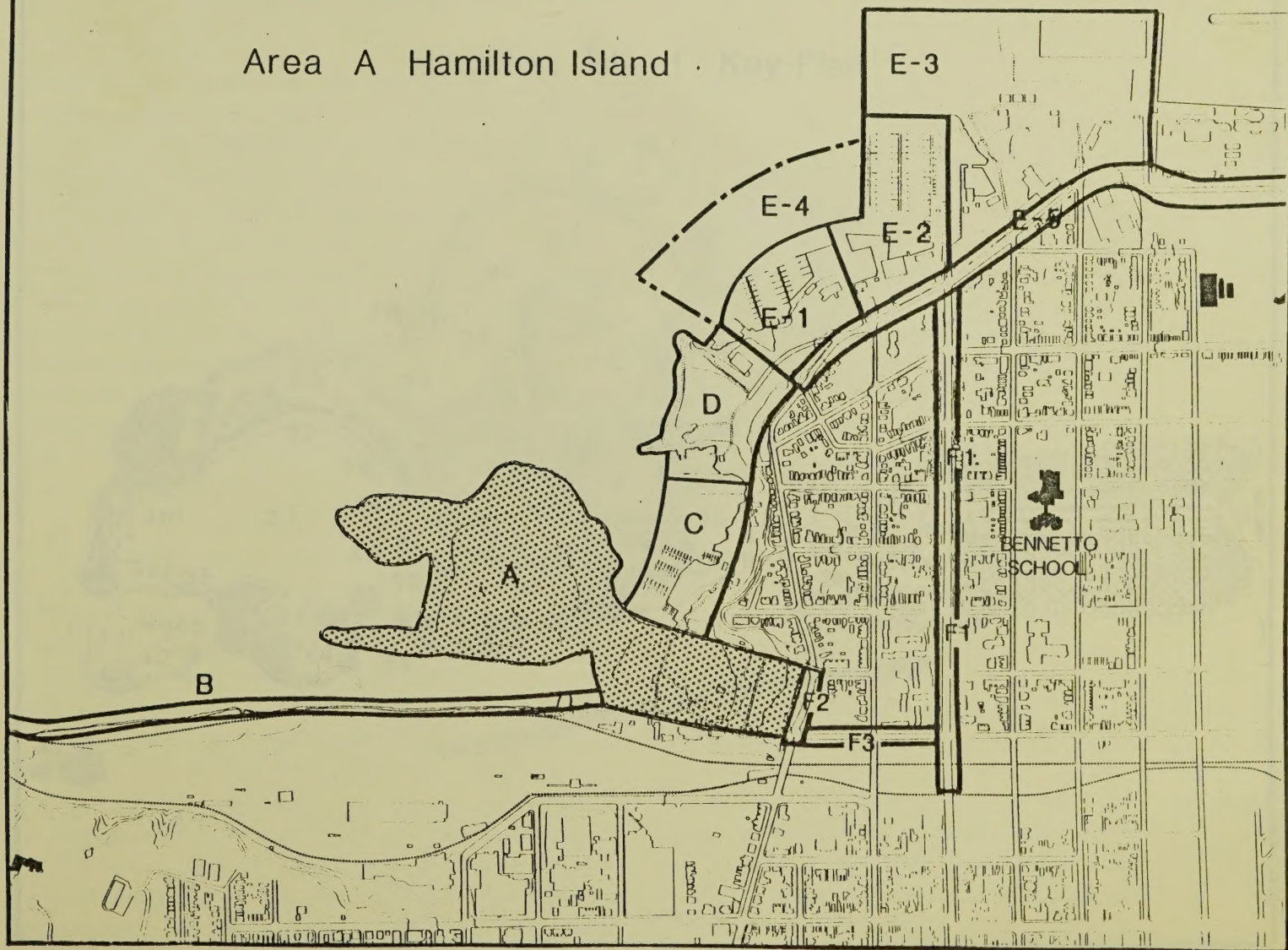
Waterfront Master Plan 3.

Waterfront Areas

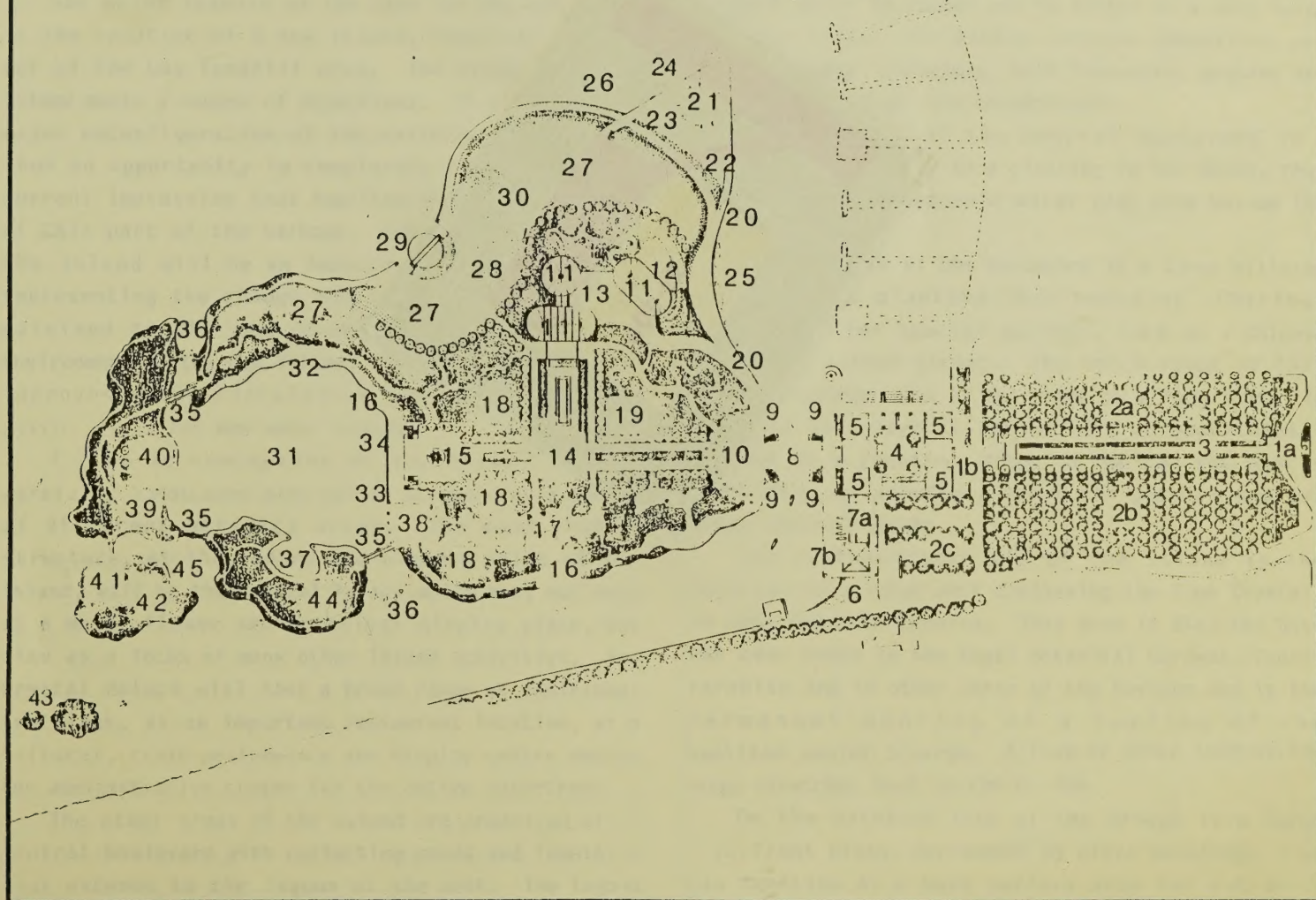
- A Hamilton Island
- B Dundurn Walk
- C Macassa Cove
- D Pier 4
- E Harbour Commission lands
- F City Connections



Area A Hamilton Island



Hamilton Island Key Plan



Area A Hamilton Island

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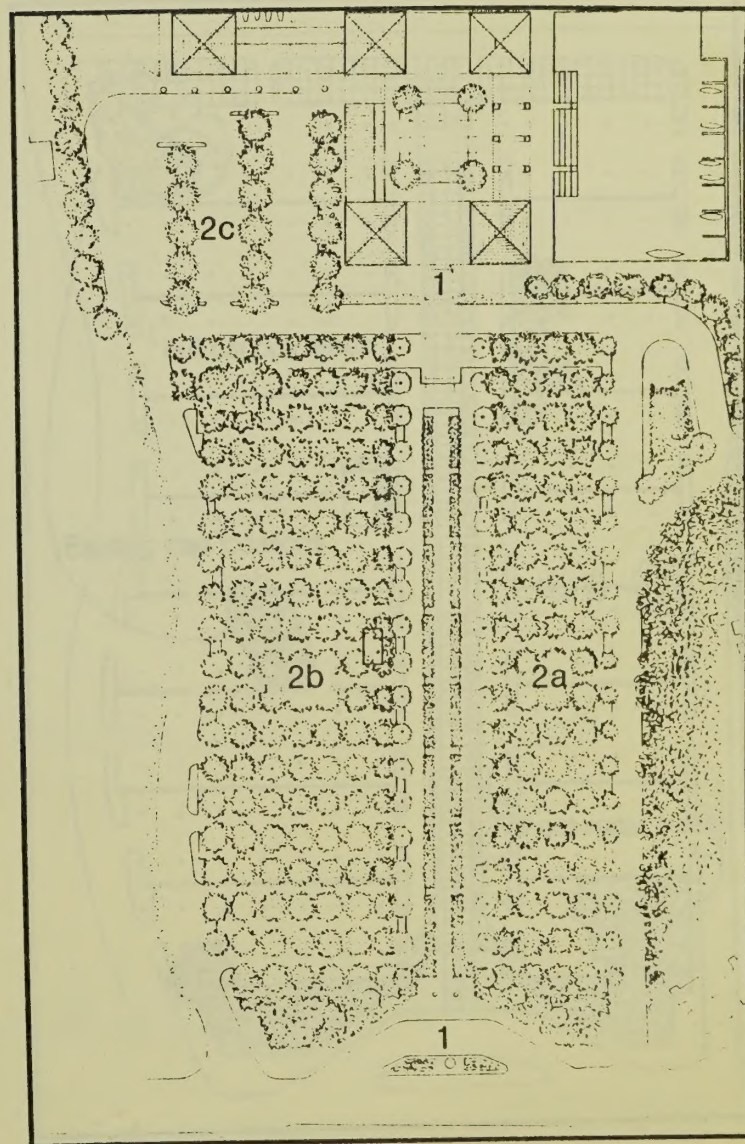
market, flea market and other appropriate commercial activities and events such as a boat show. The Island is conceived as a year-round recreational facility, with free public access at all times other than on exceptional special occasions. Parking is principally provided in a major lot east of the bridge. The Island and all other sections of the waterfront would be accessible to the handicapped.

1 Bus Drop-Off

A regular city transit bus drop-off and turn-around is located on the Bay St. frontage.

Shuttle bus service specifically to the waterfront and tour bus services would drop-off closer to the waterfront plaza at the Parking Lot C.

The area between the Island and Bay St. constitutes the only large area available for parking. Initially Lot C and the western sections of Lots A & B should be developed. Consideration should be given to structured parking when demand permits.



2 Parking Lots

a) Parking Lot A

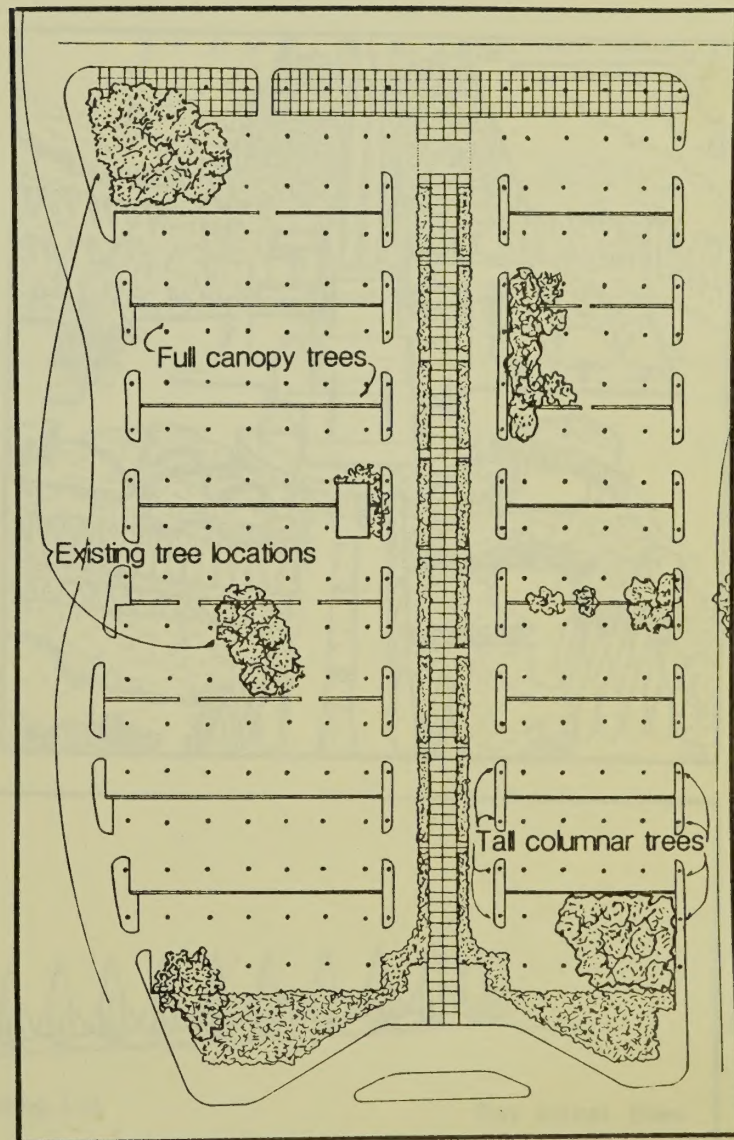
Parking Lot A has a capacity of 195 parking spaces. This lot and the other parking lots would be treed and generous grassed median strips provided to avoid the image of a sea of car roofs, when seen from Bay St. Where possible in Parking Lots A & B, good existing trees, of which there are several, should be kept. In winter this lot might be devoted to winter boat storage.

b) Parking Lot B

Parking Lot B has a capacity of 280 parking spaces. This lot should be the first developed and kept open all seasons. The existing pumping station in this location would be maintained.

c) Parking Lot C

Parking Lot C has a nominal capacity of 98 cars. It would also act as the area for shuttle and tour bus drop-off and for bus storage and as an area for service vehicle access.



3. Approach Boulevard

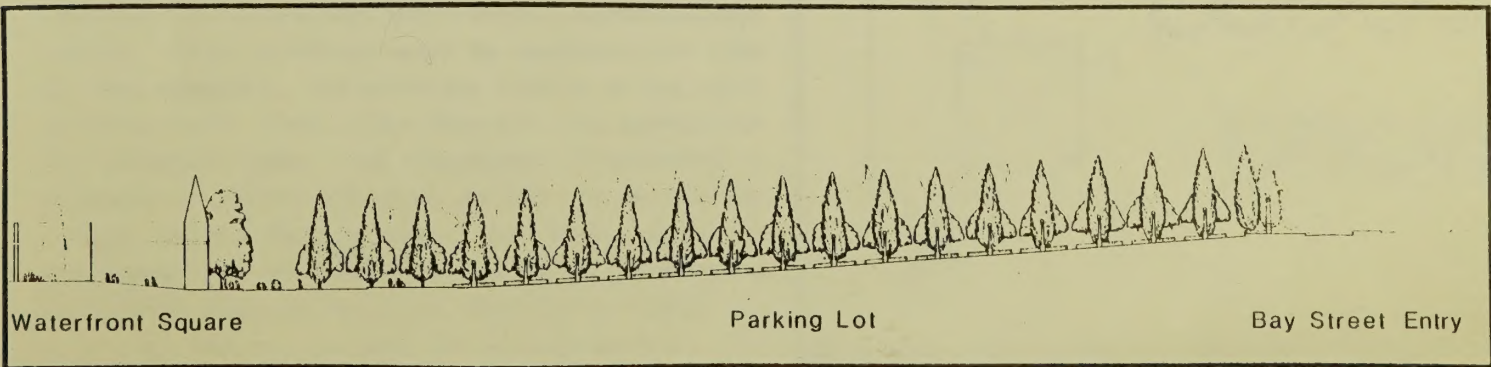
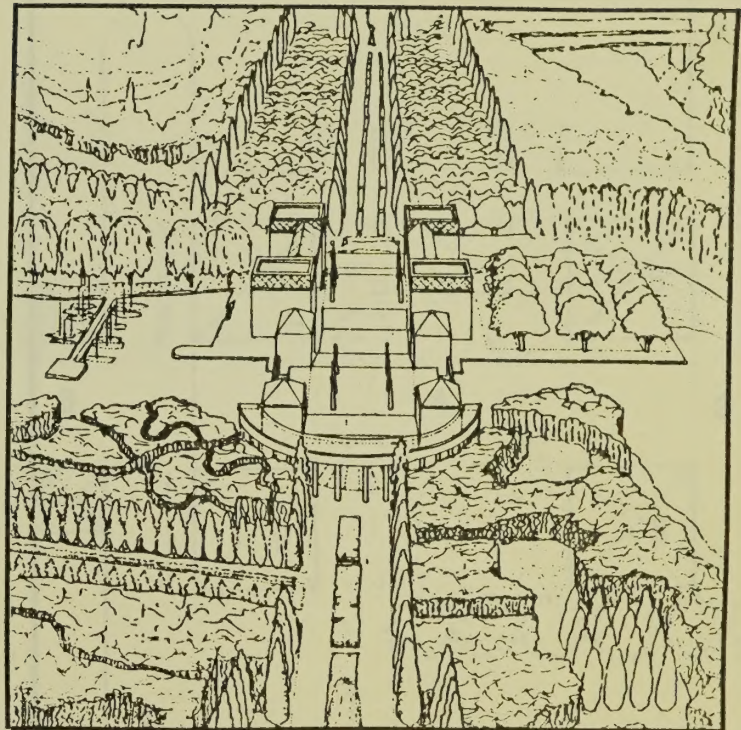
A central approach boulevard from Bay Street to the waterfront plaza acts as a collector of people from the parking lots and as a ceremonial arrival point for parades, processions, marathon races and such like. It would have distinctive signage, street lighting and street furniture to announce the arrival at the waterfront.

Views from this long approach boulevard would extend over the bridge along the Island Boulevard to the outer islands in the far distance.

4. Waterfront Plaza

The waterfront plaza announces the start of waterfront activities. It is conceived as a hard-surface area of approximately an acre, suitable for a wide range of activities. These activities might include:

farmers' market



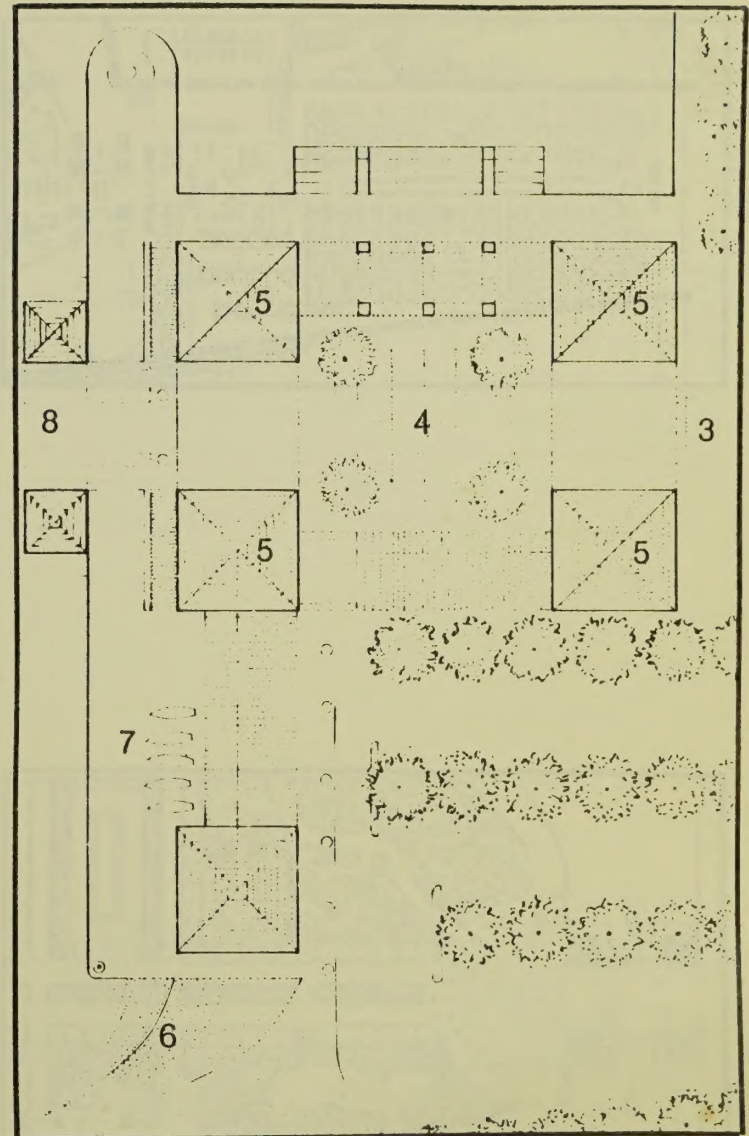
antique market
 flea market
 start/finish of marathon/bicycle races
 boat shows
 shows of sports/gardening/hobby equipment
 antique boat shows
 antique auto shows

Essentially any activity that needed a large hard-surface area close to parking is appropriate and would add life to the waterfront. The stress should be on community events, regional attractions and on semi-commercial activities like trade-fairs that have a waterfront or marine component.

The plaza is also the starting point for the waterfront walks, to Dundurn in the west and Pier 4 in the north.

5. Plaza Buildings

The kinds of plaza buildings arranged around the square provide indoor space and back-up for the activities described for the plaza. The buildings are conceived as one-storey, extra-height, warehouse type spaces. These buildings would be developed over time as need demanded. The buildings closest to the water should be built first, since they are also appropriate for restaurant space. The arrangement of buildings is intended to define the plaza and make it open to the bridge and to Macassa Cove. Initially, prior to development of the southerly buildings, landscaping and trellis features should be installed to define the space of the plaza, act as an entrance to the



Canoe and Bicycle Rentals

8. Bridge

The bridge represents the main point of arrival to the Island. The bridge would be cambered slightly to

Increase the sense of crossing the water, provide views over Macassa Cove and to give adequate clearance underneath for oarsmen and canoeists. The bridge should be designed principally for pedestrians but must also provide access for emergency and service vehicles.

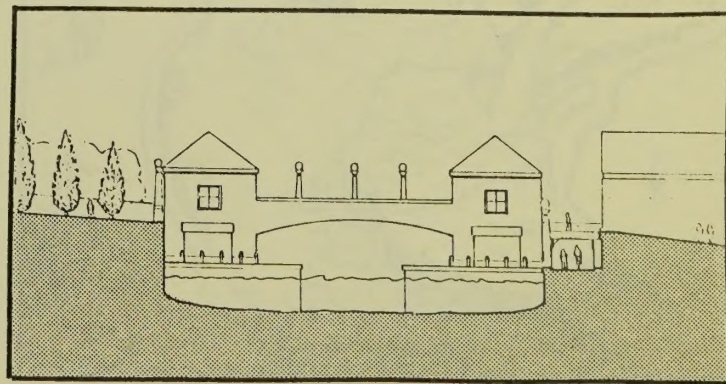
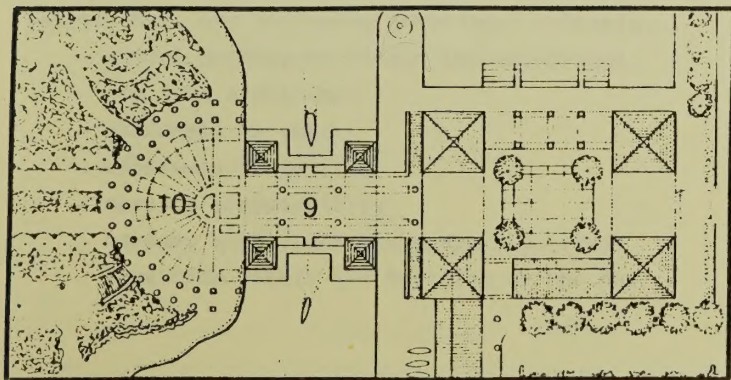
9. Bridge Restaurant

Restaurants would be located at the ends of the bridge on lower level decks closer to the water but visible from the bridge level. Entrances to the

restaurants would be created both from the bridge and from the waterfront walk and the Wharf.

10. Island Forecourt

The entrance forecourt of the Island is an appropriate place for a major sculpture piece or pieces, perhaps symbolizing Hamilton's steel industry. Flags and fountains announcing the arrival on the Island and at the Crystal Palace are also appropriate. This area could also be used as a display area for botanical and/or art work. The forecourt is defined by a semi-circular trellis colonnade that acts as the gateway to the different areas of the Island, as well as being the start of the long Island boulevard.



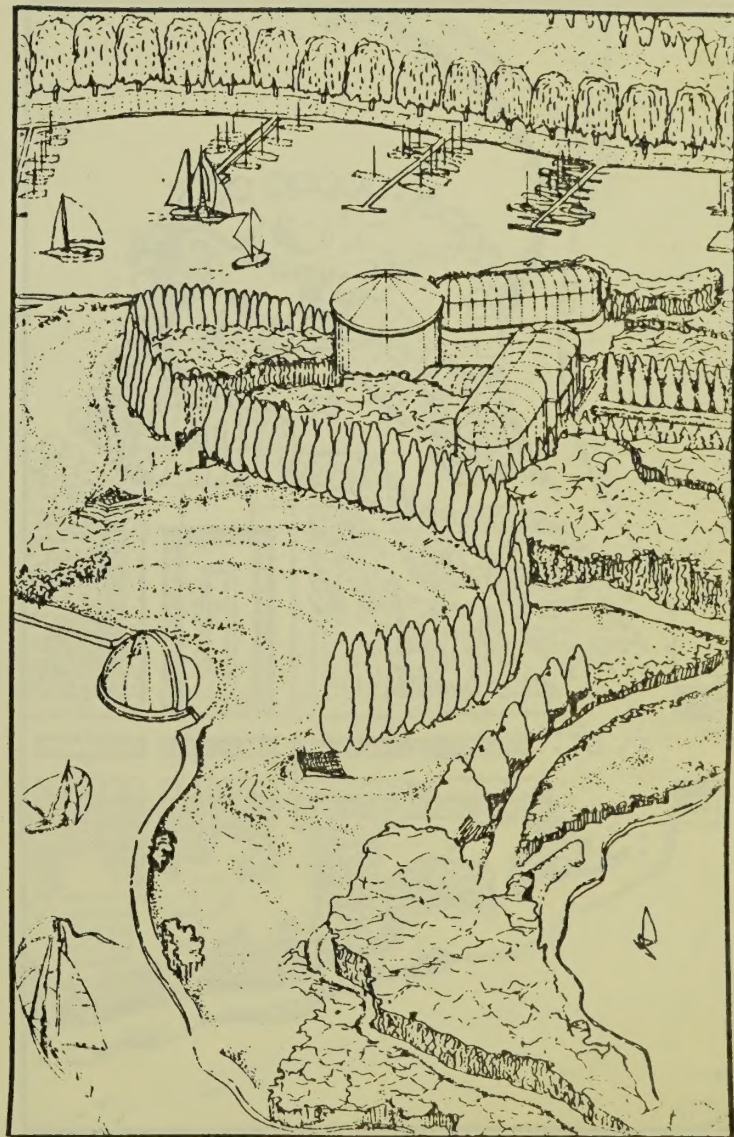
11. Crystal Palace

The Crystal Palace is located in the wooden centre of the Island at the highest point, to provide it with a prominent and visible location.

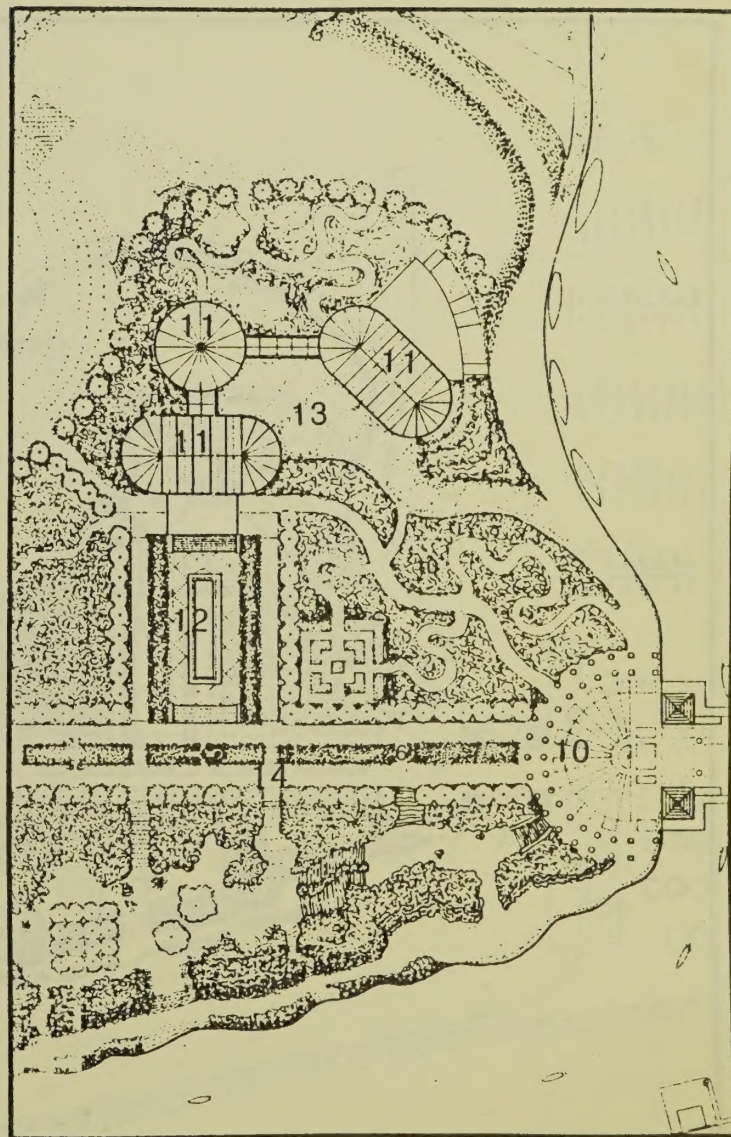
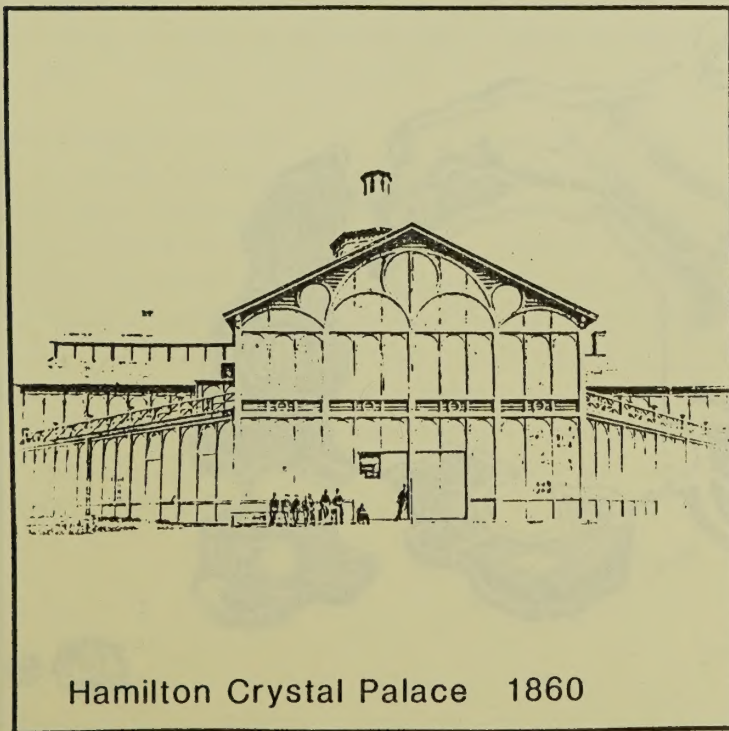
The building will provide a dramatic centrepoint for the harbour that can be seen easily from the city and the region and particularly from distant points and so that views from inside the building can be had of the Bay and the city. The Crystal Palace is conceived as a series of linked buildings with a total area of 50,000 sq. ft., one of which would be designed to function as a botanical display house, with flower show spaces occupying about 20,000 sq.ft. The other buildings would accommodate the additional functions of restaurant, gallery space, multi-purpose meeting/lecture/performance space and should have the wider mandate of supporting programming and activity throughout the Island. The buildings might be connected underground or on lower levels.

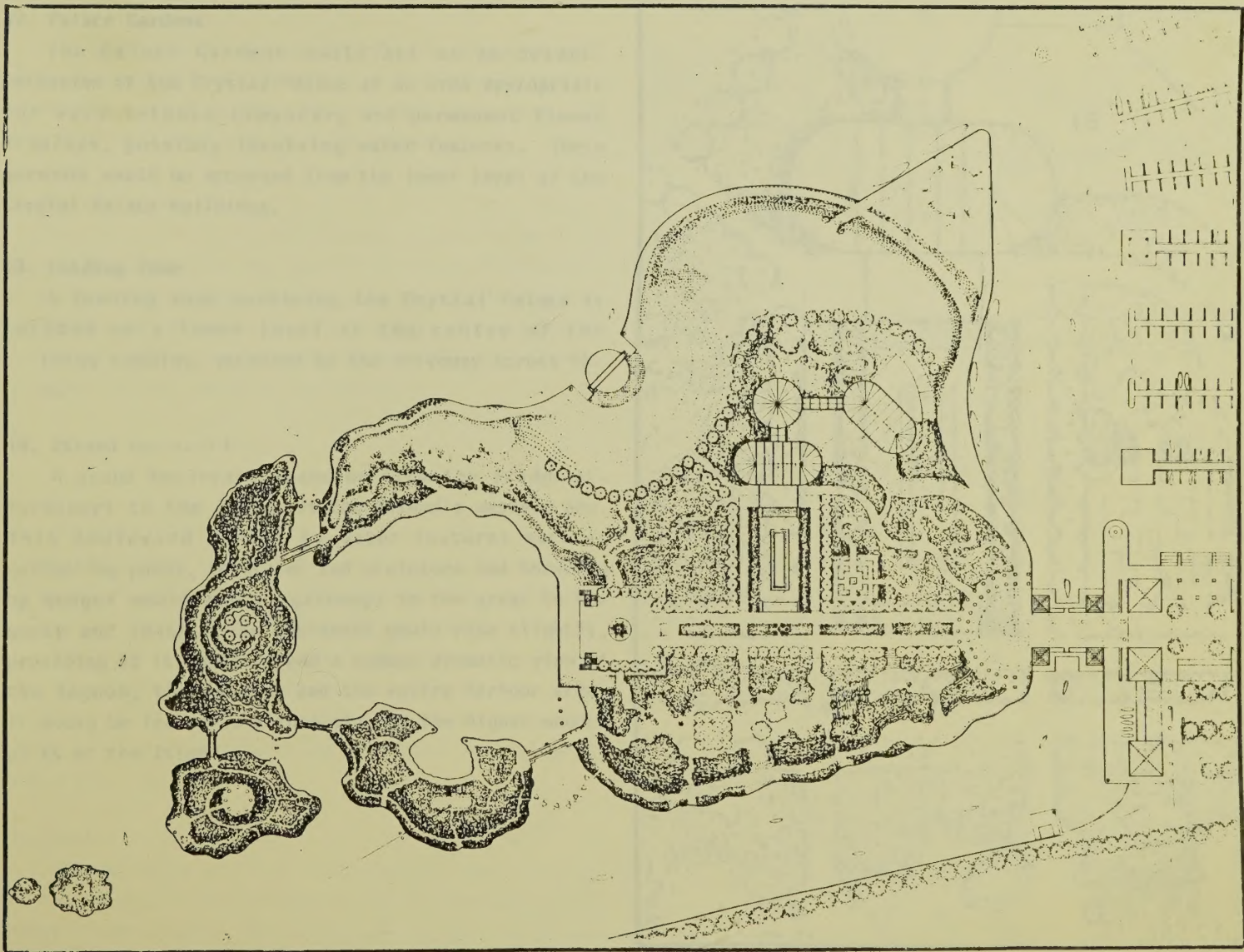
Several alternative locations were reviewed for the Crystal Palace. This central location seems to satisfy best the following locational criteria:

- visual prominence within the waterfront and from a distance
- closeness to water
- closeness to parking
- service accessibility
- harmony with other landscape objectives
- view from within the building of the Bay



The exact size and program of the Crystal Palace complex should be determined after a more thorough review of the operational requirements and costs of such a centre. A smaller structure may well be adequate to meet both botanical display and Island programming needs, or the various buildings could be phased.





12. Palace Gardens

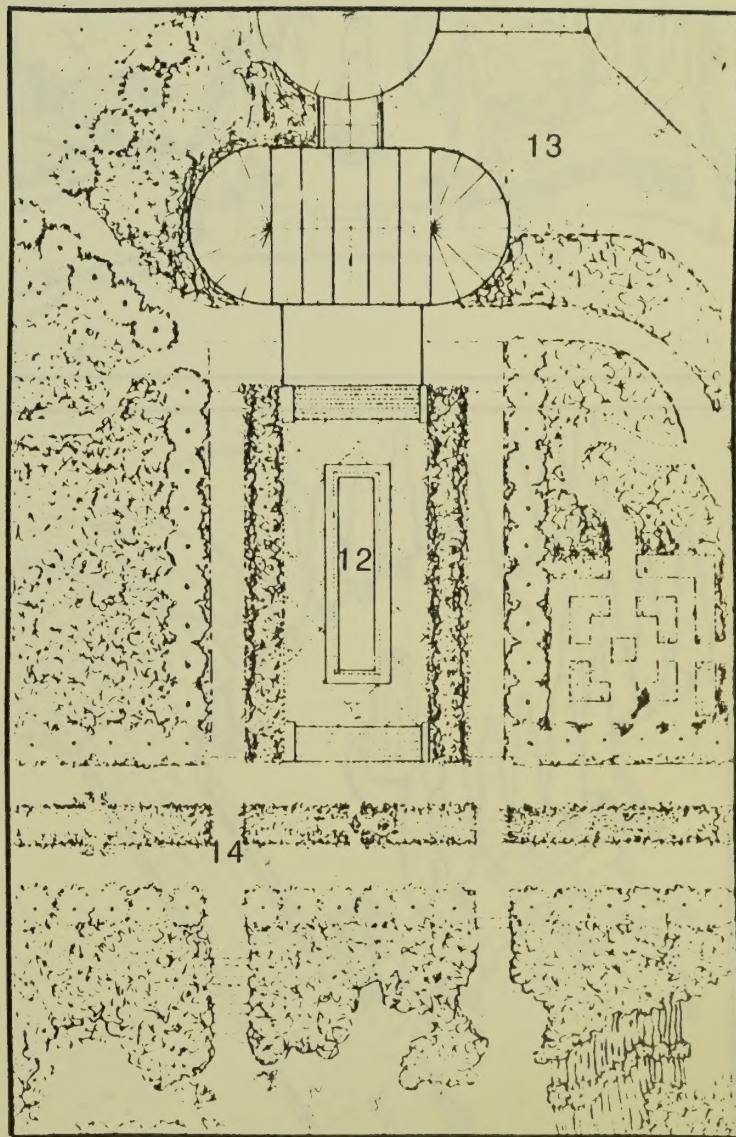
The Palace Gardens would act as an outdoor extension of the Crystal Palace as an area appropriate for very intense temporary and permanent flower displays, possibly involving water features. These gardens would be accessed from the lower level of the Crystal Palace buildings.

13. Loading Zone

A loading zone servicing the Crystal Palace is located on a lower level at the centre of the building complex, accessed by the driveway across the bridge.

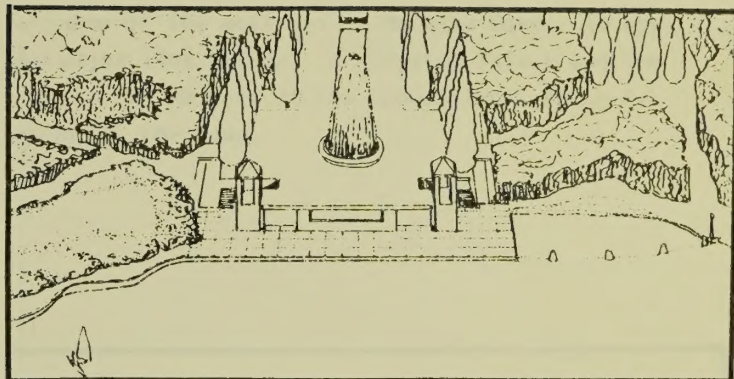
14. Island Boulevard

A grand boulevard leads on from the bridge and forecourt to the lagoon at the Island's western end. This boulevard marked by water features such as reflecting ponds, fountains and sculpture and bordered by hedges would act as gateways to the areas to the north and south. The boulevard would rise slightly, providing at its western end a sudden dramatic view of the lagoon, the islands and the entire harbour area. It would be framed on either side by the higher wooden parts of the Island.



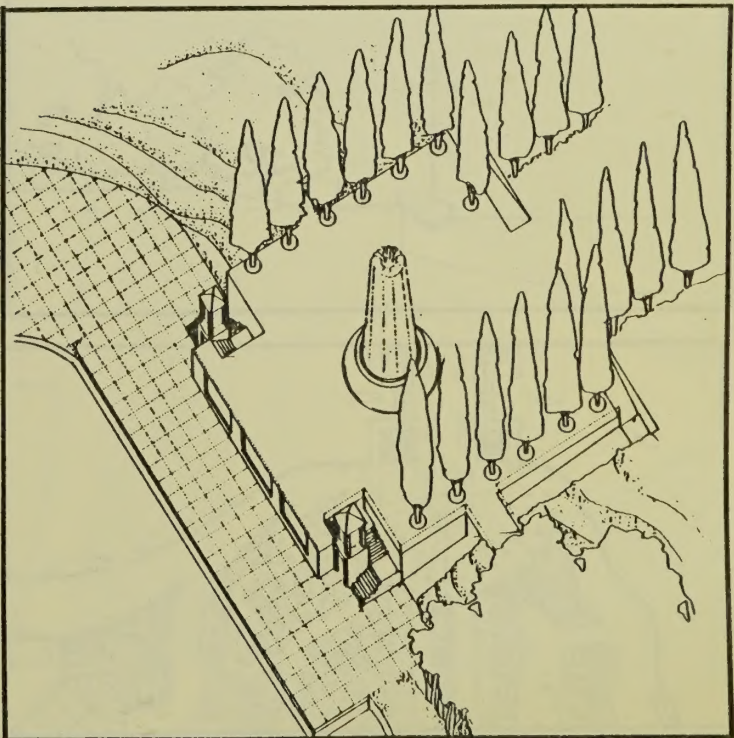
15. Fountain Plaza

The plaza at the culmination of the boulevard will contain a series of fountains and provide stair and handicapped ramp access down to the beach area. It also acts as a look-out over the lagoon.



16. Access Drives

Emergency, fire and maintenance access to the site would be provided by access drives that would originate from the bridge and extend around the perimeter of the island. Other than the asphalted portion leading immediately to the Crystal Palace, these driveways would be gravelled.



17. Children's Play Area

A children's play area would be created in a clearing in the woods to the south of the boulevard. The area should be a free access facility containing creative-type playground equipment and be designed for children in the 3-9 age group. The potential to develop this area as a more intensive, possibly commercial area should be explored once the Island is operating.

18. Woods

The majority of the central part of the Island on either side of the boulevard is to be landscaped with large shade trees. The objective is to create over

the park is a substantially wooded area, remnants of the deciduous forests of the Escarpment, with the clearings would provide spaces for particular activities.

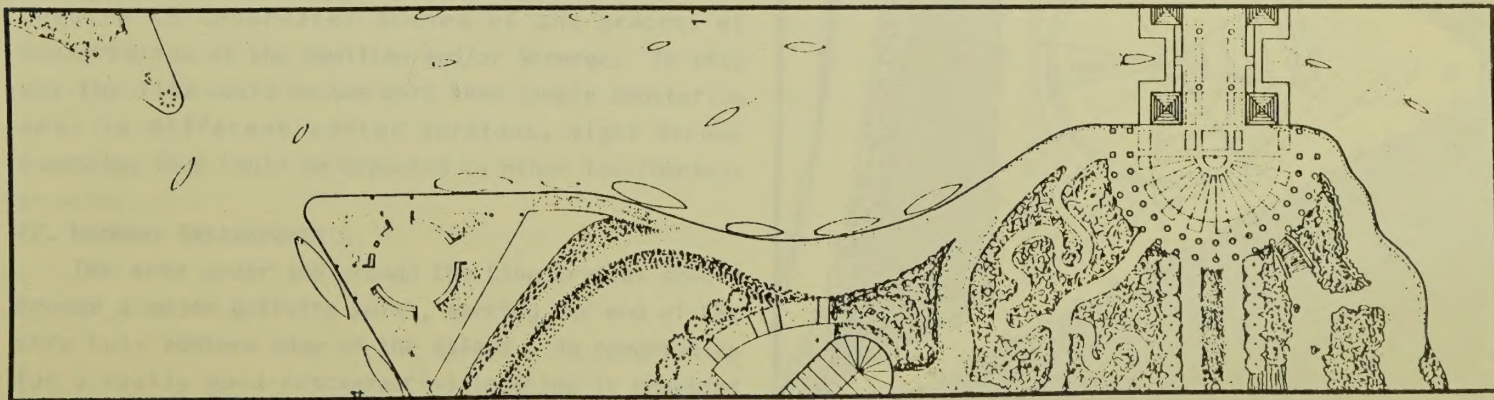
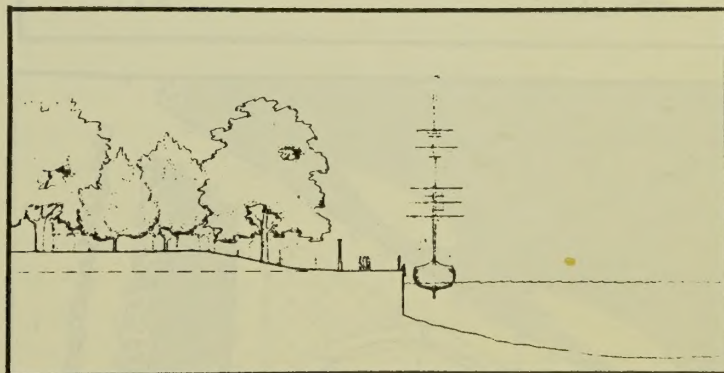
19. Clearings

Within the woods certain areas would be left clear, either just as interesting places or to be developed along particular landscape themes. The children's play area would occupy one such clearing and another might be devoted to a group picnic area or developed as flower or botanical garden such as a rose garden, Chinese garden or similar such idea. In the largest of these clearings would of course be the complex of Crystal Palace buildings.

20. Wharf

The Wharf, which in total is over 1,000 ft. long is a paved walkway along the water's edge, where interesting ships are moored and where good views can

be seen of the activity in Macassa Cove. It would be the major link between the Crystal Palace and the water and be part of the processional route from the bridge to the lawn.



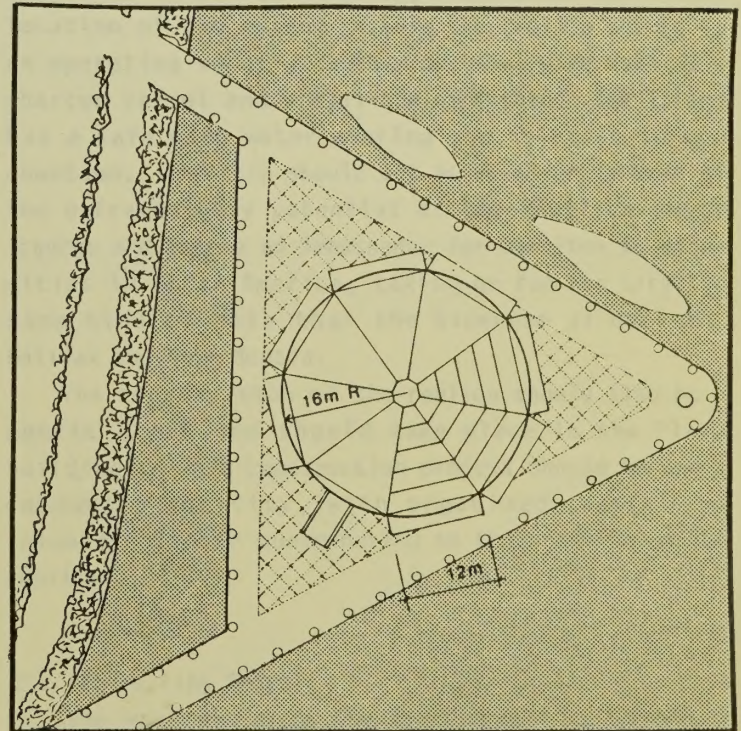
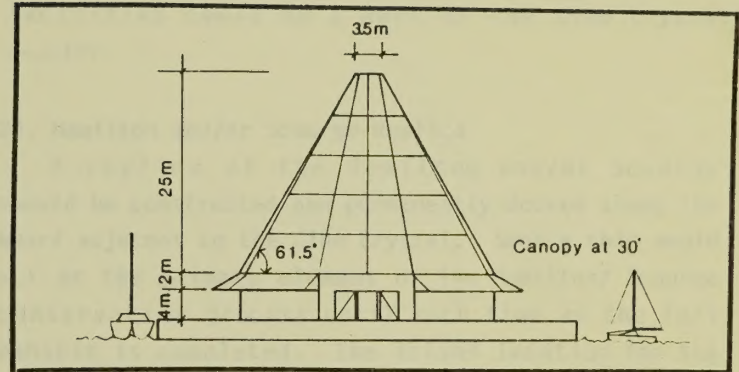
21. Cine Crystal

The Cine Crystal, a large screen Imax/Omnimax theatre, is located on the large piled deck that stands at the entrance to Macassa Cove. This building would be excitingly designed to reflect across the water and, in concert with the Crystal Palace, contribute to the drama and visibility of the entire waterfront. In design, this structure should harmonize with and counter-point the Crystal Palace, hence the name Cine Crystal.

The Cine Crystal should offer a regular commercial showing of the kinds of dramatic nature and space films produced specifically for this kind of cinema. In addition, a film about Hamilton should be produced as a tourist promotion. This film should highlight the unique and first class elements of the Hamilton environment. It should include enticing footage of Cootes Paradise and the Royal Botanical Gardens, and exciting sound and light scenes of the steel industry at work. A major component of the film should be devoted to underwater scenes of the process of conservation of the Hamilton and/or Scourge. In this way the film would become more than simple boosterism and, in different edited versions, might become something that could be exported to other Imax/Omnimax theatres.

22. Harbour Restaurants

The area under and around the Cine Crystal should become a major activity point, marking the end of the very busy eastern edge of the Island. An opportunity for a really good restaurant(s) location is provided



by the position at the entrance to Macassa Cove. This restaurant or restaurants would be situated on the lower level of the Cine Crystal building and spill out onto the surrounding deck.

23. Tour Boat Deck

The piled look-out structure containing the Cine Crystal and restaurants would also be the centre of private commercial tour boat activity. Tour boats would leave from the Island to the Royal Botanical Gardens, where they could dock at Spring Garden Road and connect to a future trolley vehicle for a tour around the Gardens. Tour boats to the steel works should also leave from here. Other destinations to be considered are the Burlington Beach Strip which might also provide overflow parking for the Island activities, Confederation Park with its Wild Waterworks, and La Salle Park in Burlington.

In this way the Island could become a take-off point for many different excursions and experiences, adding variety to the single trip to the Island. An aerial gondola connection to Dundurn Castle is suggested later as another interesting destination that can originate on the Island.

Locating the tour boat facilities at the entrance to Macassa Cove, rather than in it, should help reduce water traffic congestion.

The tour boat area should include washrooms and an area for shelter in inclement weather. Again these

facilities could be a part of the Cine Crystal complex.

24. Hamilton and/or Scourge Replica

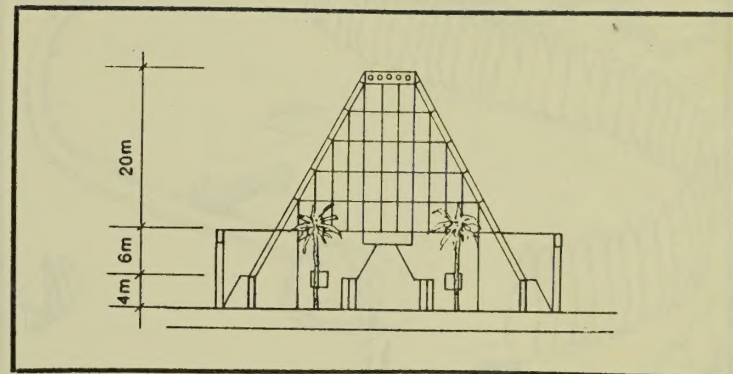
A replica of the Hamilton and/or Scourge should be constructed and permanently docked along the Wharf adjacent to the Cine Crystal. Such a ship would act as the primary element of the Hamilton/ Scourge conservation process until such time as the full exhibit is completed. The Island location for the replica is appropriate regardless of the final location of the museum because the replica should be an operating vessel, capable of being used both as a charter vessel and a sail training ship. The Island has a safe deep water mooring and is close to the downtown. The ship should act as an advertisement of the extraordinary potential of the Hamilton and/or Scourge and become an ambassador for Hamilton to other cities in North America, taking on for the City the same kind of role that the Bluenose II does for Halifax and Nova Scotia.

The construction of the replica should also be a public event and should take place in the Plaza buildings. This construction process should become a community activity, with organized team(s) and volunteer labour contributing to the creation of the replica.

25. Interesting Ships

The moorings along the Wharf should be devoted to

interesting ships rather than normal marina docking. People walking along the Wharf should enjoy the experience of seeing old motor cruisers, Chinese junks, visiting tall ships and similarly different types of boats. At least one major tall ship should be encouraged to locate here permanently as a major element of such a fleet. The commercial charter potential of such vessels is very good in so large a market area.



26. Fishing Area

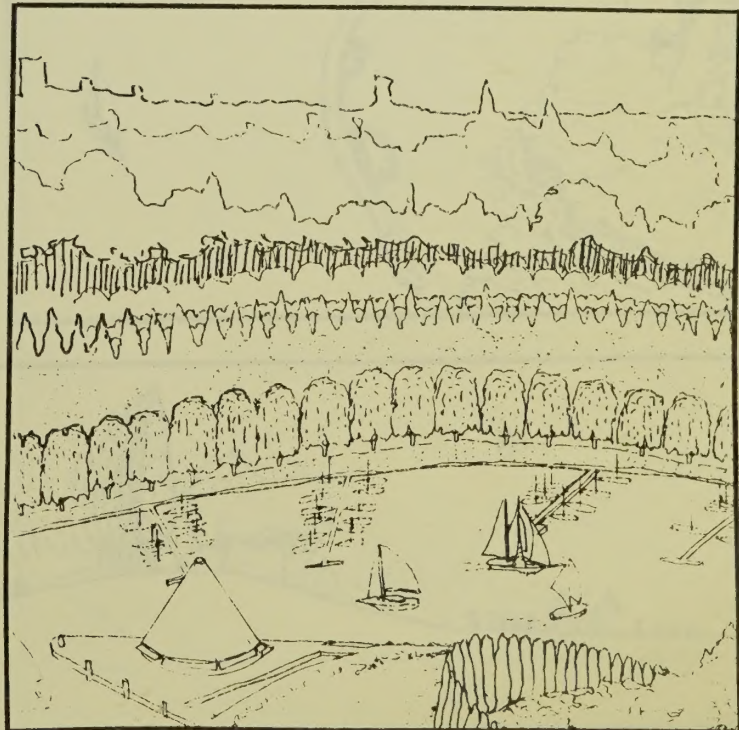
The area between the land and the Cine Crystal complex is appropriate as a fishing area. In fact the entire waterfront should accommodate fishing, with all water's edge treatments designed to stimulate fish stock development.

27. The Lawn

The Lawn is intended to be a large open grassed area suitable both for picnics, frisbee throwing and other such recreational activity and to accommodate large crowd events such as festivals, parades and outdoor performance events.

The total area of the Lawn is approximately eight acres, including the performance area and the western arm. Such an area is adequate for large gatherings as well as capable of being divided into smaller activity areas.

The Lawn would be tilted to the north in order to

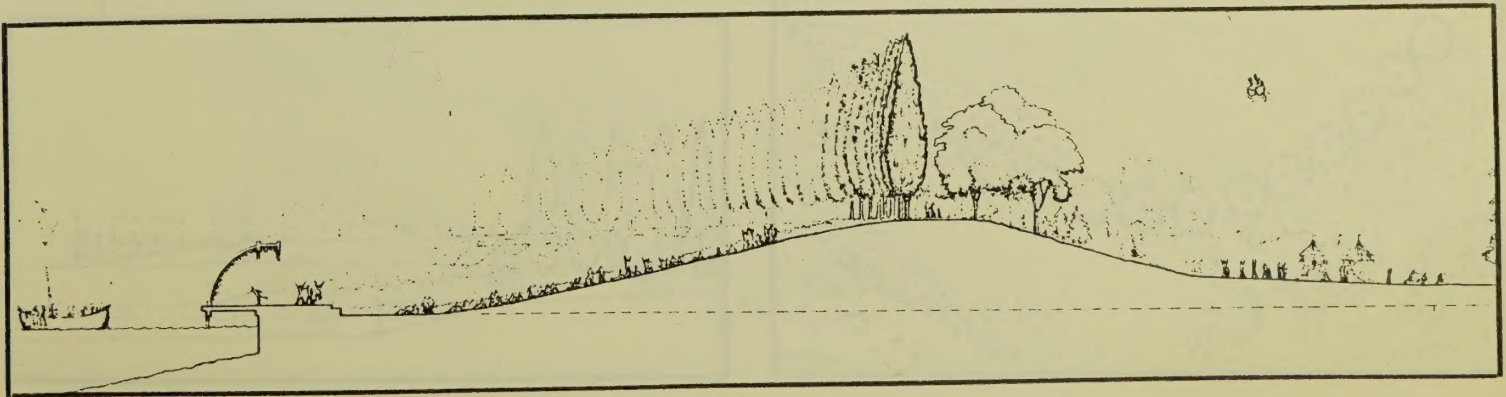
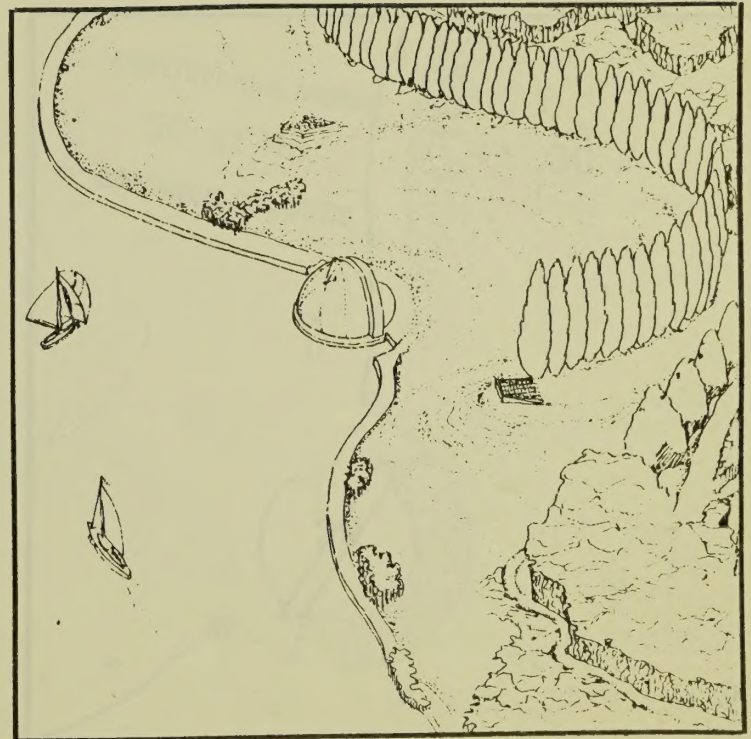


provide a natural viewing platform for water events. Careful attention to servicing is necessary to ensure good grass condition can be maintained.

The Lawn should become the major outdoor festival space for the entire city, with many of the major parades and festivals currently located elsewhere in the city being relocated here. Having parades begin or end here and travel up James St. N. to the downtown will help to reduce the perceived distance between the two areas.

28. Performance Area

The Lawn is shaped into a grassy bowl that has sight lines good enough to act as a seating area for performances. This area is seen as appropriate for drama, dance, concerts and as an element in any ethnic or cultural events that might be held on the Island. No permanent or covered seating would be provided, so that the area could be available for general use



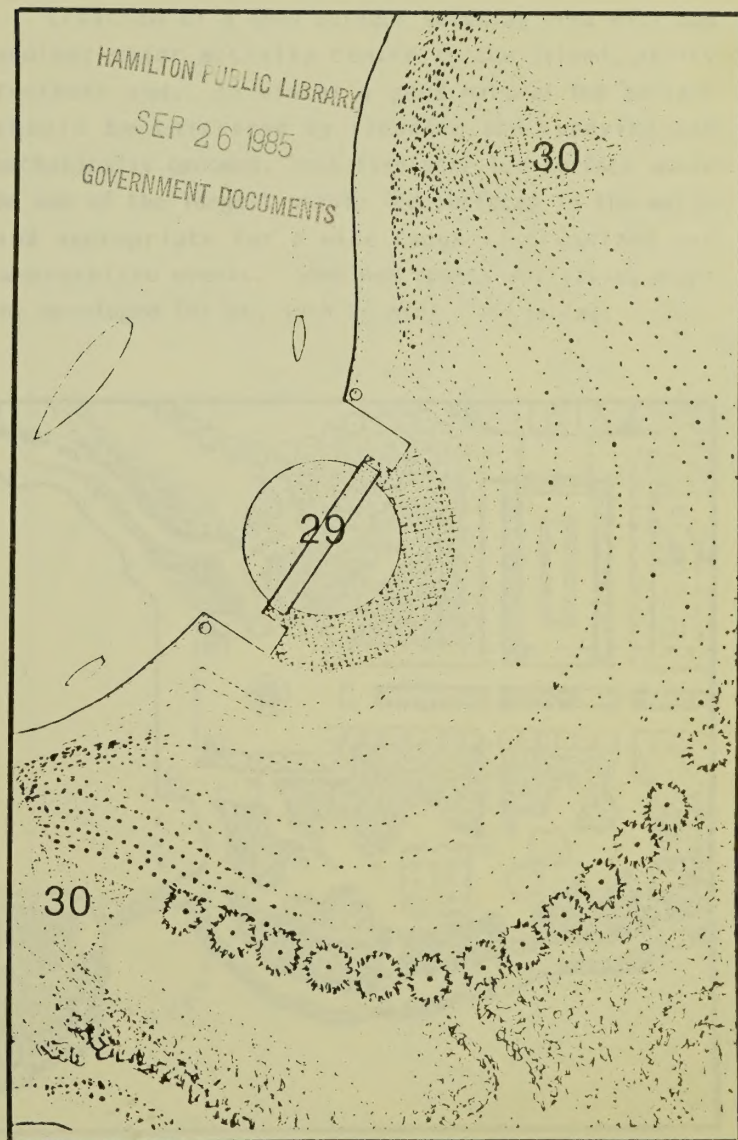
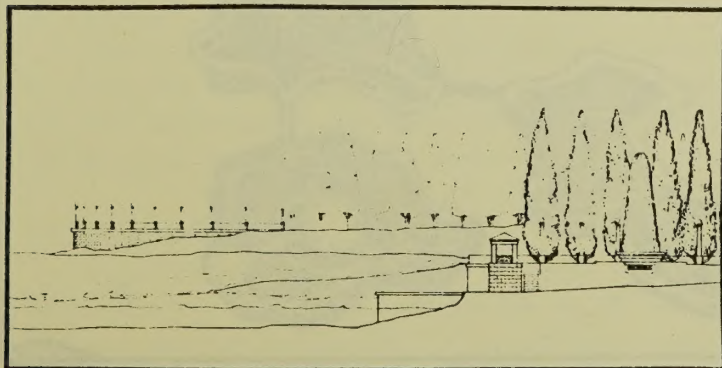
during non-performance times and suitable for tobogganing in the winter.

29. Floating Stage

A permanent stage that is (or appears to be) floating should be located in the performance area as a base for performance events. This stage should not be fully amplified so as to reduce any noise impact on the adjacent neighbourhood. The stage should be covered to provide equipment protection. Temporary seating might be provided immediately in front of the stage for special events.

30. Look-Outs

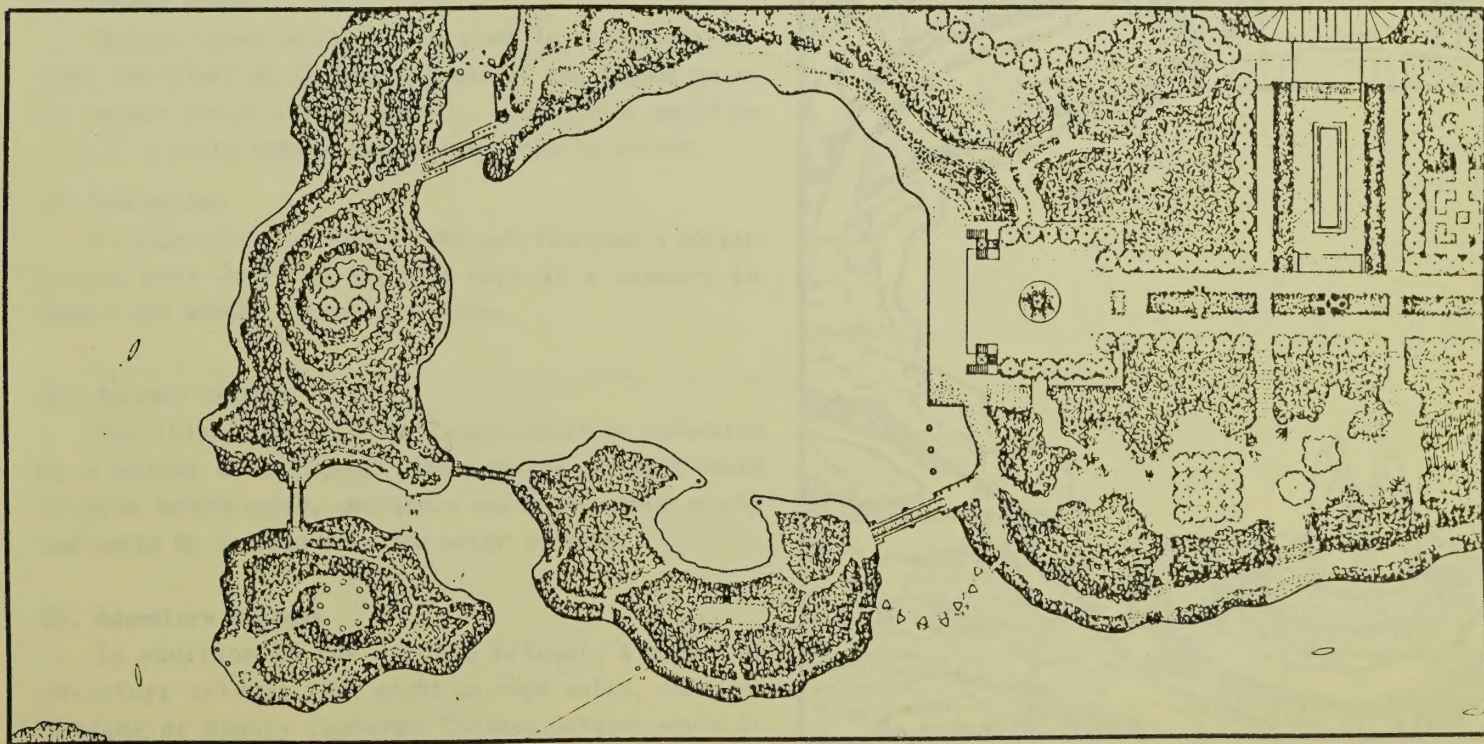
A pair of look-outs are located at the high point of the main Island. These small areas that might contain gazebos would provide seats and shelter and could become a subsidiary part of a performance in the main performance area. Permanent binoculars may be located here.



31. Lagoon

The lagoon at the western end of the Island performs many functions in winter and summer, as well as being a major attractive landscape element. The water would be a maximum of seven feet deep and shallowed around the edges to provide safe, sandy sandy swimming beaches. Screens would be positioned across each of the water entrances to the lagoon to permit chlorination of the lagoon water. Positive chlorine pressure would be maintained by a treated feed from mains wa

Creation of a good outdoor swimming area will add another major activity centre to the Island, at its furthest end. In winter a good natural ice surface should be thickened by flooding and spraying and mechanically groomed. This five-acre ice surface would be one of the largest usable ice surfaces in the world and appropriate for a wide range of organized and unorganized events. Some new sports activities might be developed for it, such as mini ice boating.



The area would also be suitable for summer and winter water/ice pageants and shows. The potential of laser holography to create historic recreations should be explored.

32. Beach

The safe, sandy swimming beaches for general swimming would be located along the eastern and northern shores of the lagoon.

33. Change Rooms

Change rooms would be located in structures set into the bluff at the eastern end of the lagoon so as to reduce their visual impact. This area would be used as a skate rental and warm-up area in winter.

34. Concession

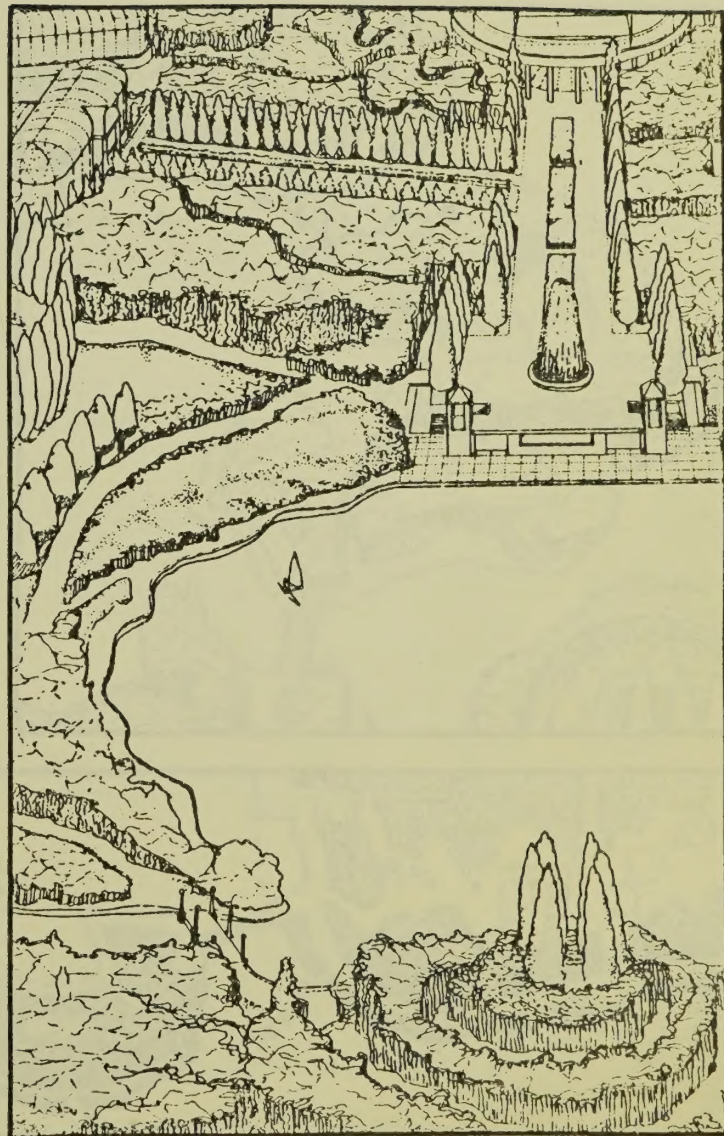
A concession for simple take-out food and a decked eating area would be located here as a support to summer and winter lagoon activities.

35. Service Bridges

The Islands around the lagoon would be connected by a series of bridges. The service bridges would provide handicapped, emergency and maintenance access and would be located over the water screens.

36. Adventure Bridges

In addition to the service bridges, a number of adventure bridges that might be rope walks, swinging bridges or highly cambered Chinese bridges would be



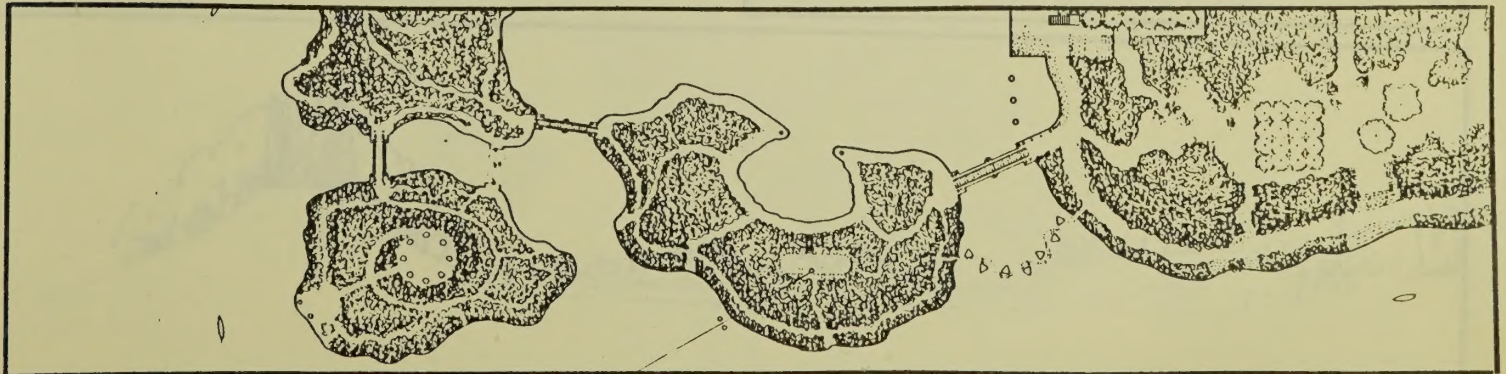
designed, to add to the air of excitement and magic of the Islands.

37. South Island

The south island has a high ridge along its southern shore to screen from the CN Tracks area. It is also the location of the terminus of the aerial gondola to Dundurn Castle.

38. Children's Water Play Area

A small children's water play area is created off the main lagoon. This would have adventure equipment, slides and water toys and perhaps a mock-up pirate ship as the main feature. It would be designed for children in the 3-9 age group.

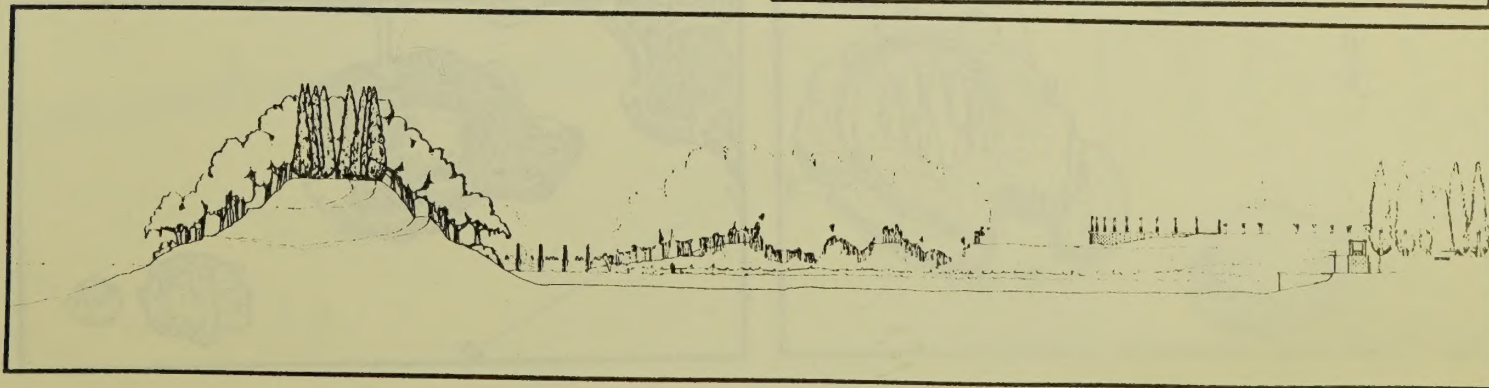
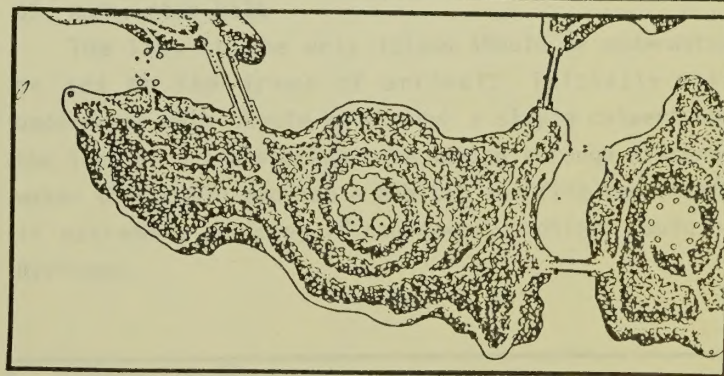
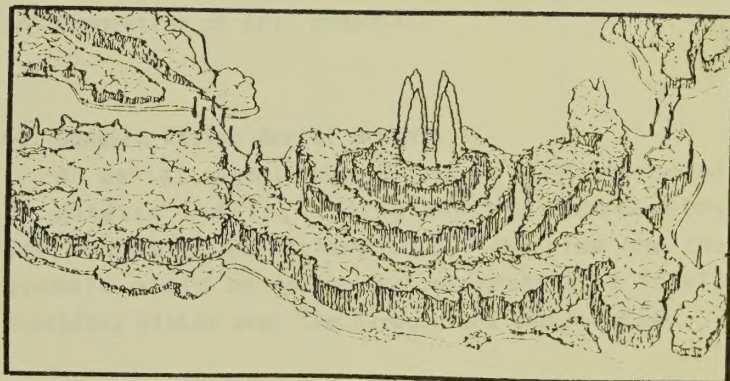


39. North Island

The north island is built up to create the highest point in the islands, approximately 50 feet above lake level. The highpoint is approached along a circuitous walk through densely planted areas.

40. High Point

The high point of the Island would provide views of the entire harbour and back to the downtown. It would be a dramatic look-out, that would stand at the end of the view along the Island boulevard and in a vista from Dundurn Castle. Binoculars should be provided.



41. West Island

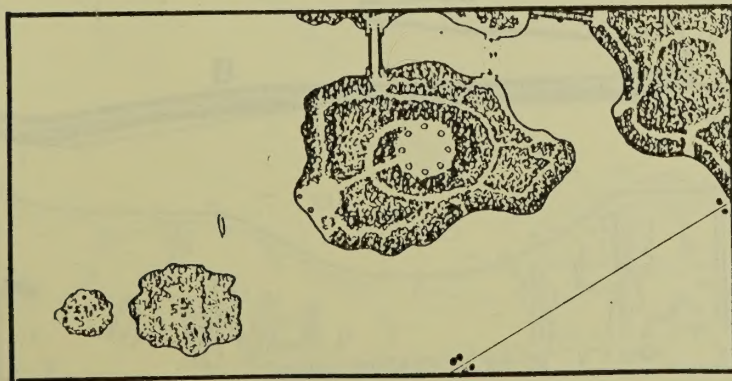
The west island is a peaceful place heavily wooded with a circular ridge concealing a lower clearing occupied by a grotto.

42. Grotto

The grotto should be a magical area in a low glade in the forested island, only approached from the north island. A ring of stones, perhaps column capitals and arches from demolished buildings, would provide an area for picnics and story telling. Careful sight-lines to the outer island and Dundurn Castle would be maintained.

43. Outer Islands

The Outer Islands cannot be reached but stand heavily treed in the water view. The Outer Islands (and potentially parts of certain of the other islands) stand in water lots owned by the Harbour



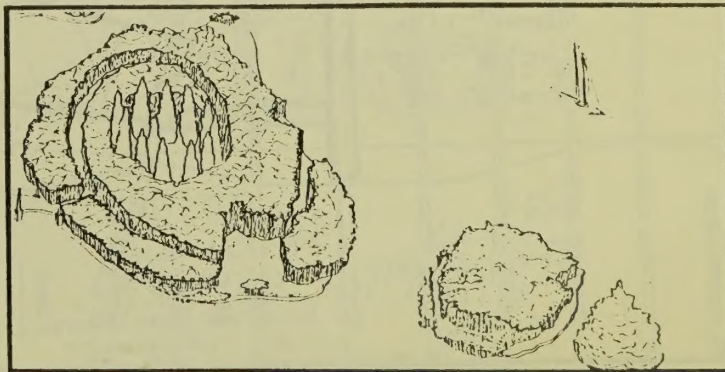
Commission, whose cooperation will be required for implementation of this proposal.

44. Dundurn Castle Aerial Gondola

An aerial gondola should connect the south island to Dundurn Castle, adding another interesting destination to the Island trip. The view from the gondola would be extremely interesting of itself providing vistas over the harbour and the downtown.

45. Underwater Walk

The link to the west island should be underwater to add to the drama of arrival. Initially this underwater walk should be through a simple culvert but the idea of a transparent tube moving through filtered water that could provide a habitat for fish and otters is extremely enticing if management problems could be overcome.



Area B Dundurn Walk

E-3

E-4

E-2

E-1

D

C

A

B

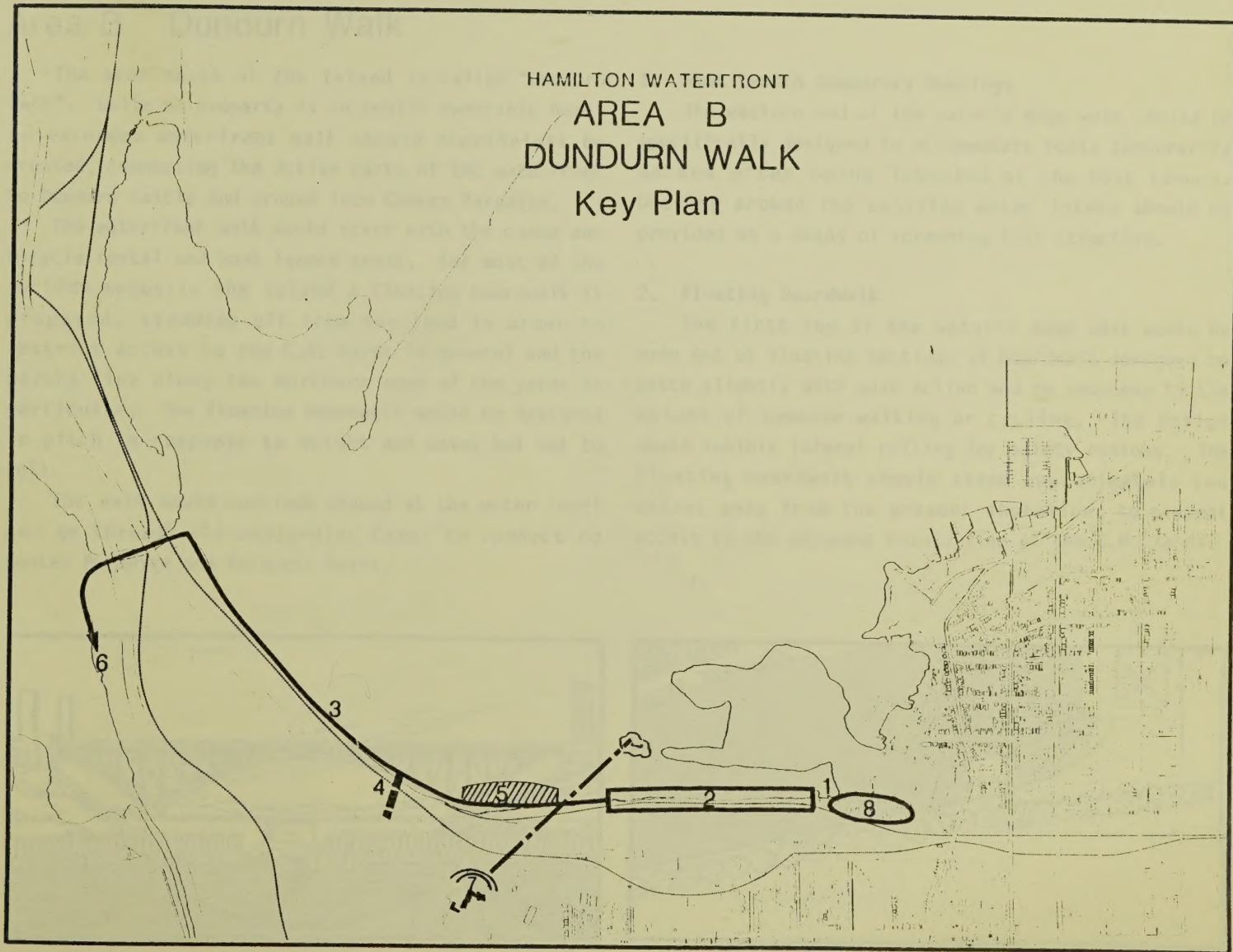
F-1

F-2

F-3

BENNETTO SCHOOL

HAMILTON WATERFRONT
AREA B
DUNDURN WALK
Key Plan



Area B Dundurn Walk

The area south of the Island is called "Dundurn Walk". While no property is in public ownership here, an extended waterfront walk should nonetheless be created, connecting the active parts of the waterfront to Dundurn Castle and around into Cootes Paradise.

The waterfront walk would start with the canoe and bicycle rental and boat launch areas. For most of the section opposite the Island, a floating boardwalk is proposed, standing off from the land in order to restrict access to the C.N. Yards in general and the hazard line along the northern edge of the yards in particular. The floating boardwalk would be designed to pitch in response to weight and waves but not to roll.

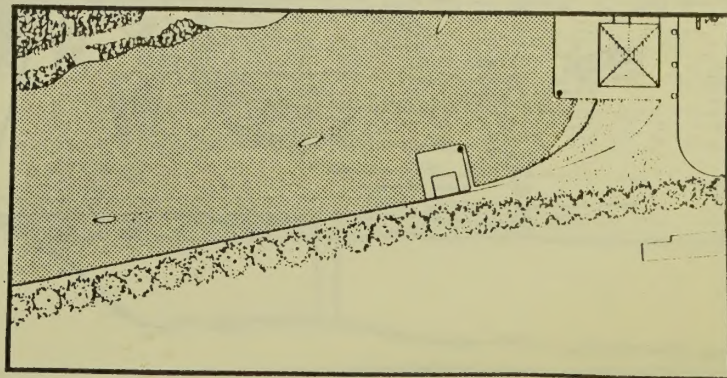
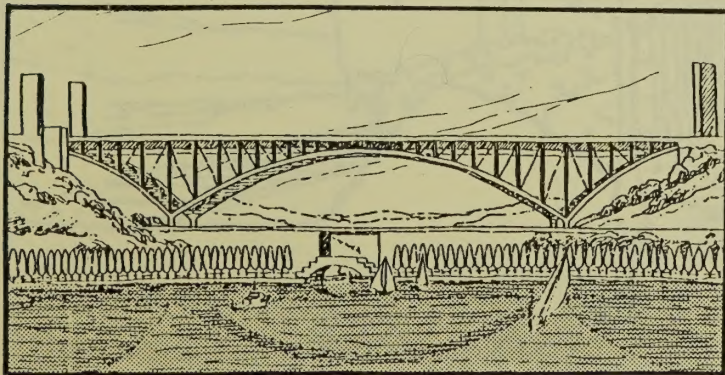
The walk would continue around at the water level and go through the Desjardins Canal to connect to Cootes Paradise and Princess Point.

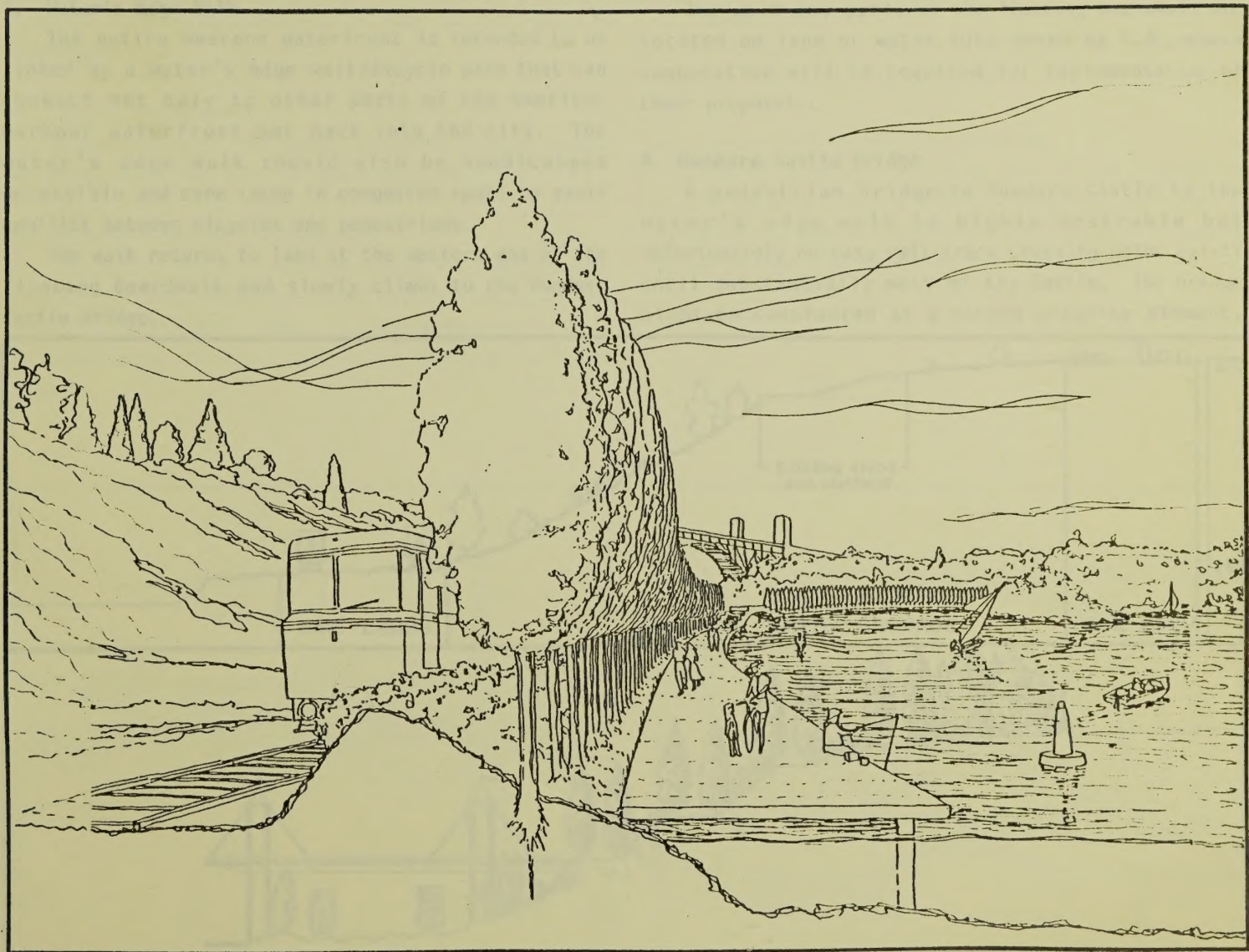
1. Boat Launch Temporary Moorings

The eastern end of the water's edge walk should be specifically designed to accommodate boats temporarily docked after being launched at the boat launch. Docking around the existing water intake should be provided as a means of screening this structure.

2. Floating Boardwalk

The first leg of the water's edge walk would be made out of floating sections of boardwalk designed to pitch slightly with wave action and in response to the weight of someone walking or cycling. The design would inhibit lateral rolling for safety reasons. The floating boardwalk should stand approximately two metres away from the present shoreline, to prevent access to the adjacent hazard line of the C.N. Yards.





3. Water's Edge Walk

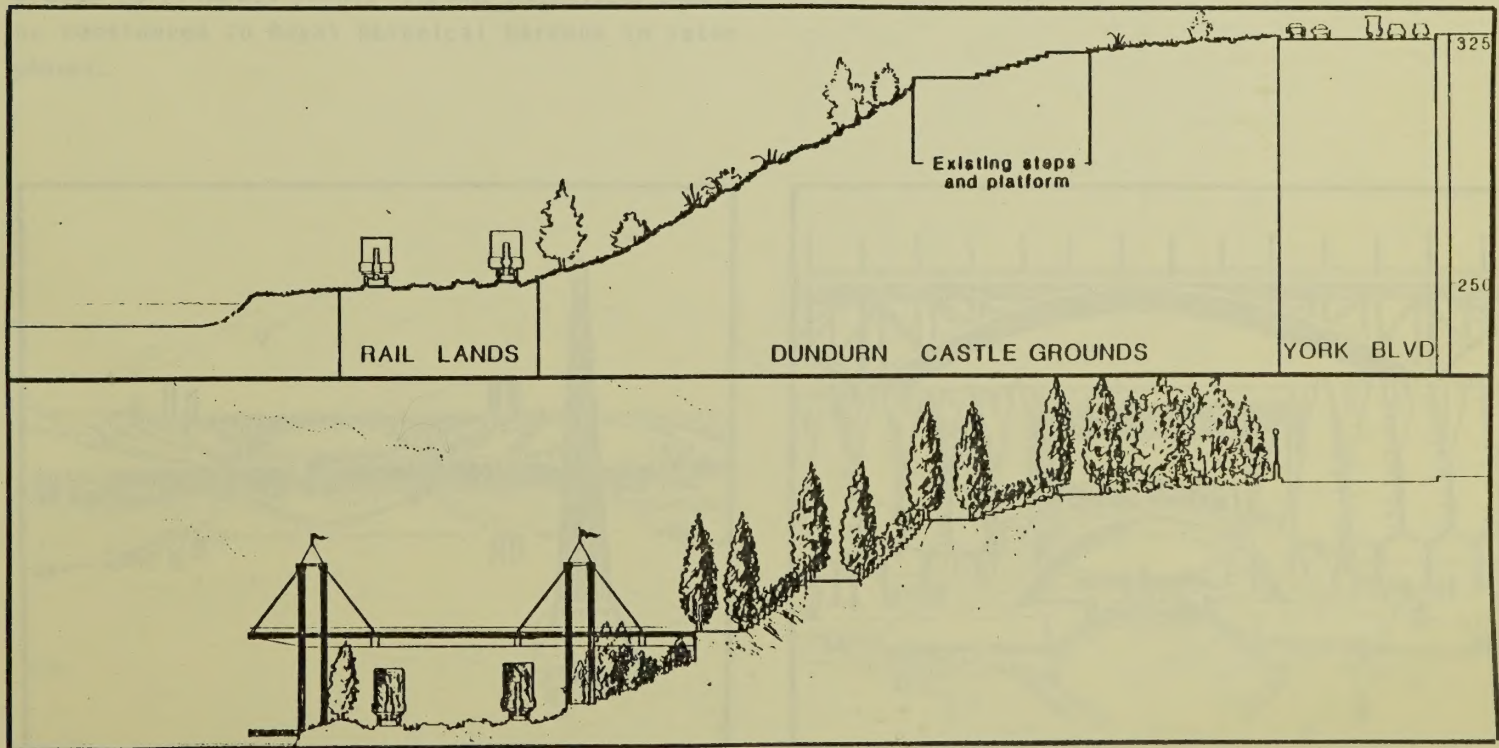
The entire western waterfront is intended to be linked by a water's edge walk/bicycle path that can connect not only to other parts of the Hamilton Harbour waterfront but back into the city. The water's edge walk should also be handicapped accessible and care taken in congested spots to avoid conflict between bicycles and pedestrians.

The walk returns to land at the western end of the floating boardwalk and slowly climbs to the Dundurn Castle bridge.

The walk and parts of the floating boardwalk are located on land or water lots owned by C.N. whose cooperation will be required for implementation of these proposals.

4. Dundurn Castle Bridge

A pedestrian bridge to Dundurn Castle to the water's edge walk is highly desirable but unfortunately no easy rail track crossing point exists until substantially west of the Castle. The bridge might be considered as a second priority element,



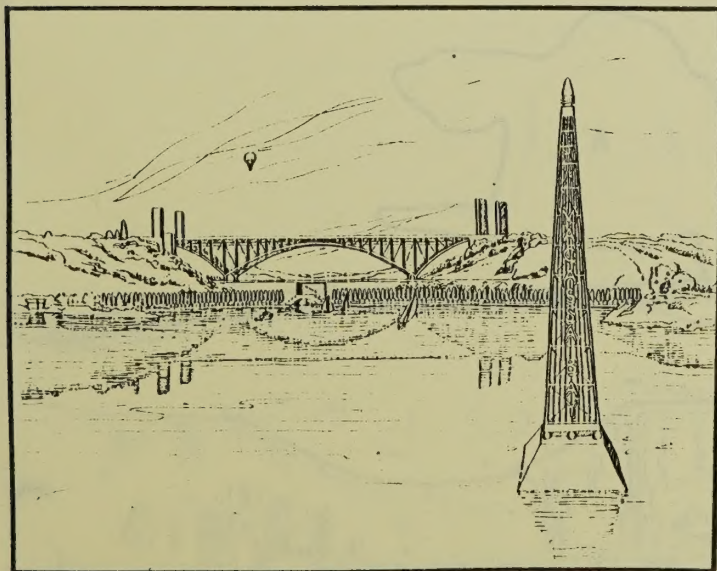
depending on the success of the aerial gondola connection.

5. Castle Moorings

A mooring area for boats visiting Dundurn Castle is proposed at the foot of the bridge location.

6. Water's Edge Walk Connections

The water's edge walk should be extended through the Desjardins Canal cut under the High Level bridge around to Princess Point. Further extensions should be considered to Royal Botanical Gardens in later phases.

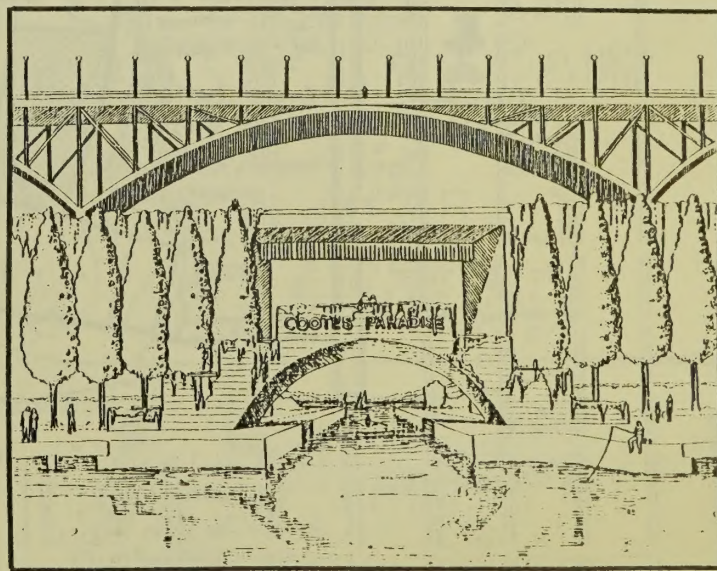


7. Gondola Arrival

A location is indicated on the lower lawn of Dundurn Castle for the terminus of the aerial gondola.

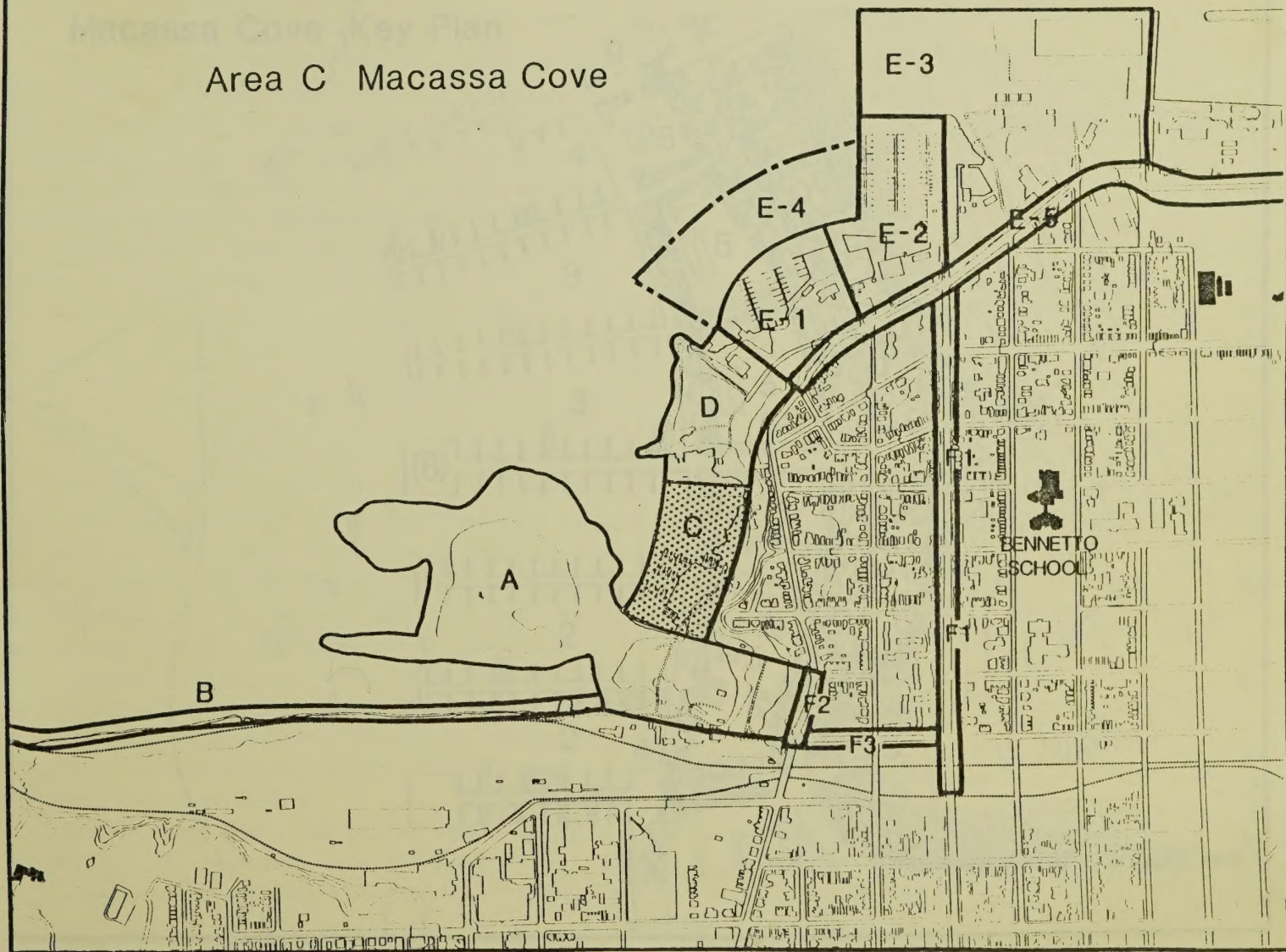
8. Future Parking and Service Area

The area of land south of Parking Lot C should be acquired as a future parking and service area for the waterfront. The current low intensity uses are not an attractive complement to the waterfront.

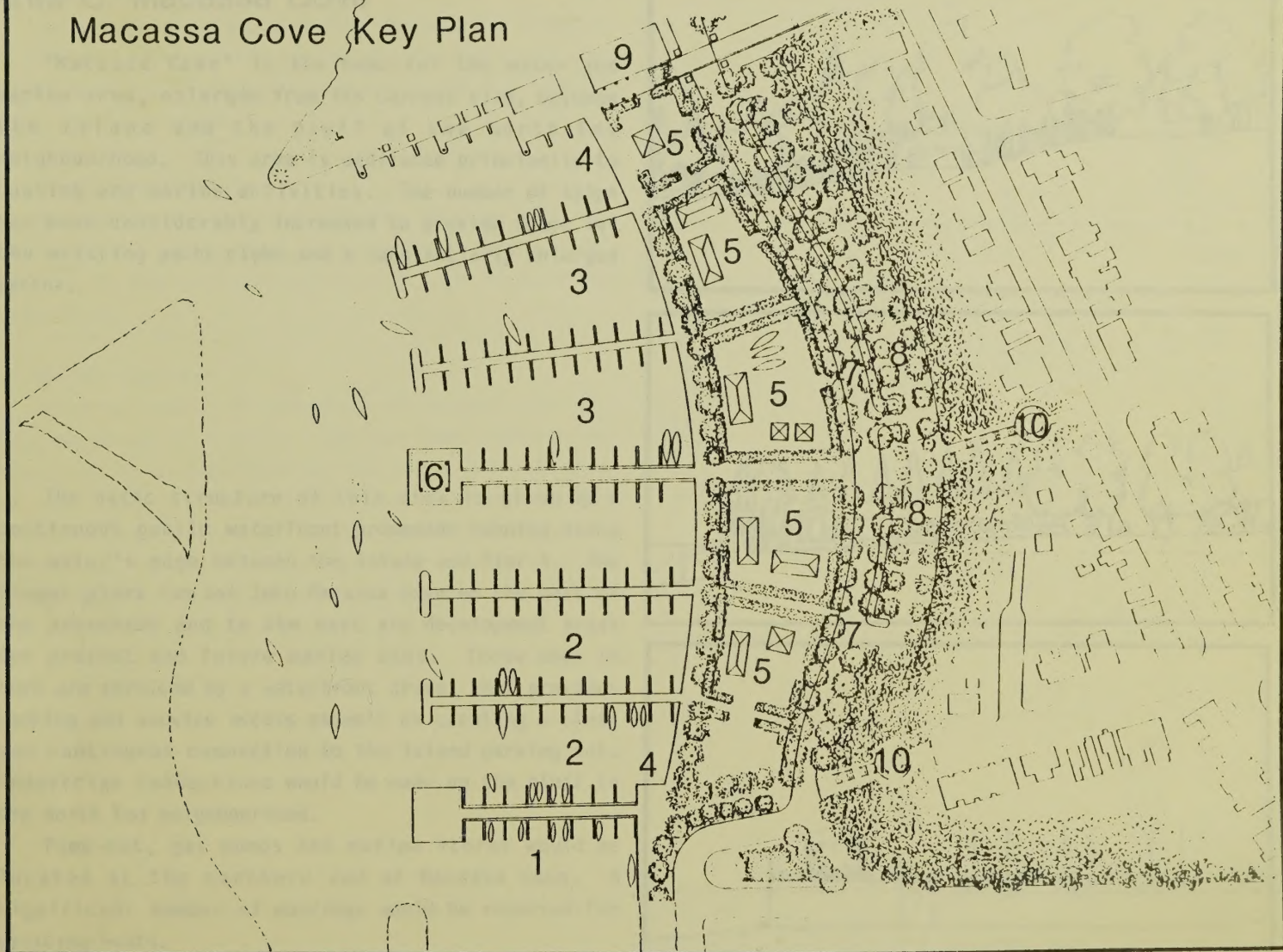


Macassa Cove Key Plan

Area C Macassa Cove

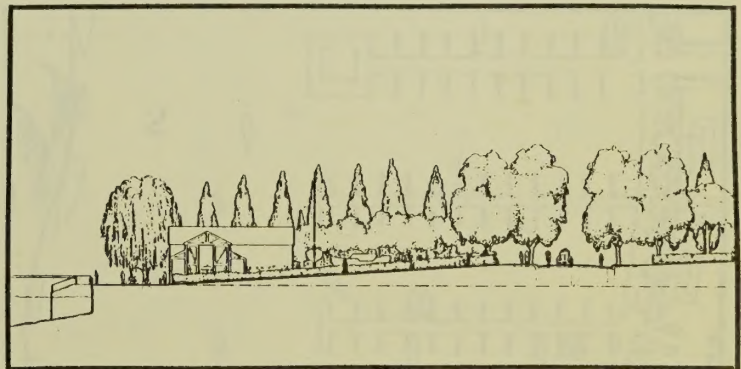
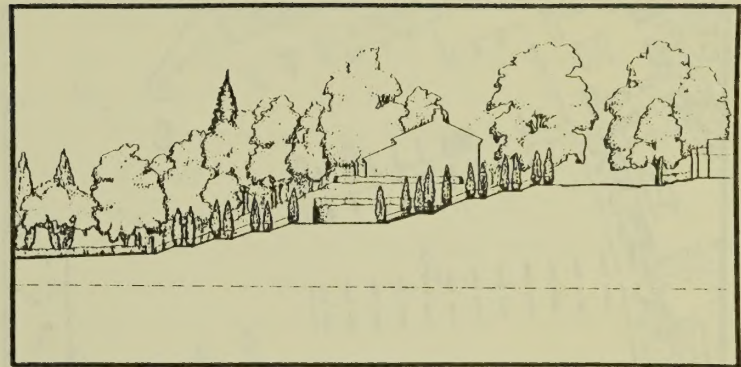


Macassa Cove Key Plan



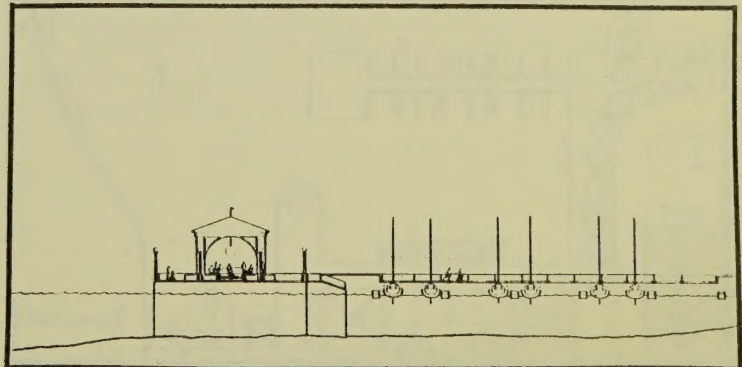
Area C Macassa Cove

"Macassa Cove" is the name for the water and marina area, enlarged from its current size, between the Island and the bluff of the North End neighbourhood. This area is dedicated principally to boating and marine activities. The number of slips has been considerably increased to provide space for the existing yacht clubs and a substantially enlarged marina.



The basic structure of this area is given by a continuous public waterfront promenade running along the water's edge between the Island and Pier 4. The finger piers run out into Macassa Cove on the west of the promenade and to the east are development areas for present and future marine uses. These uses in turn are serviced by a waterfront drive, that provides parking and service access as well as creating a clear and continuous connection to the Island parking lot. Pedestrian connections would be made up the bluff to the North End neighbourhood.

Pump-out, gas pumps and marina stores would be located at the northern end of Macassa Cove. A significant number of moorings would be reserved for visiting boats.



1. Short Term Moorings

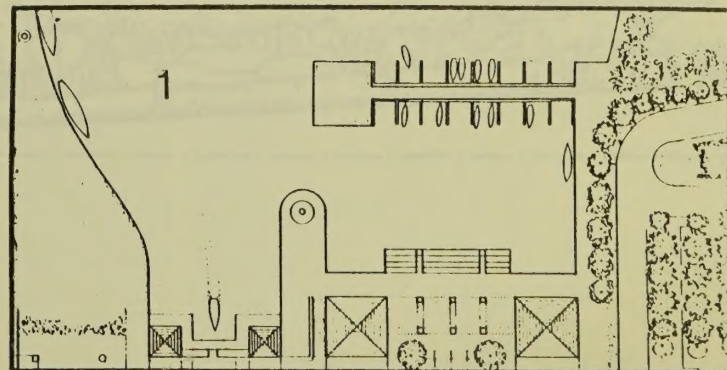
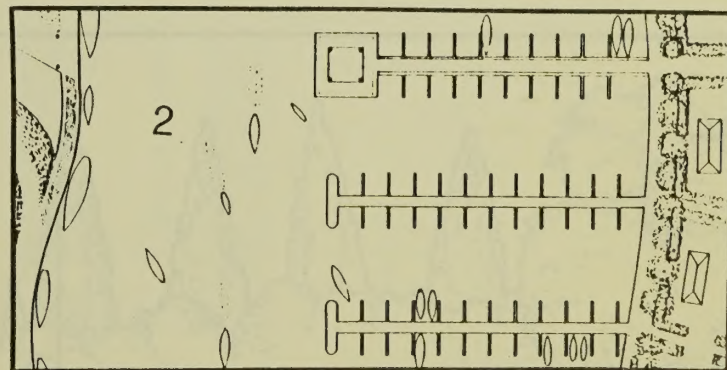
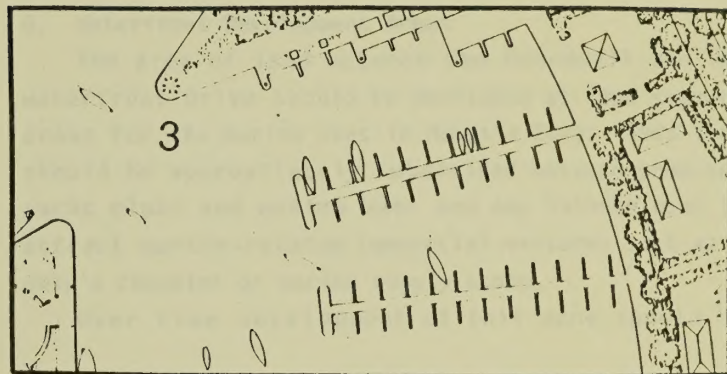
The section of Macassa Cove immediately adjacent to the Waterfront Plaza should be reserved for short-term moorings by visitors for which high rental rates can be charged.

2. Yacht Club Moorings

An area capable of accommodating between 100 - 140 boat moorings of various sizes has been reserved for tenancy by the existing yacht club, the Macassa Bay Yacht Club.

3. Marina Moorings

An area capable of accommodating between 180 - 220 boat moorings of various sizes has been reserved for occupancy by a commercial marina. Such a facility is an important part of a waterfront and any operator should be encouraged to provide a substantial number of his moorings for visiting boats and to have an active boat rental capacity for visitors.



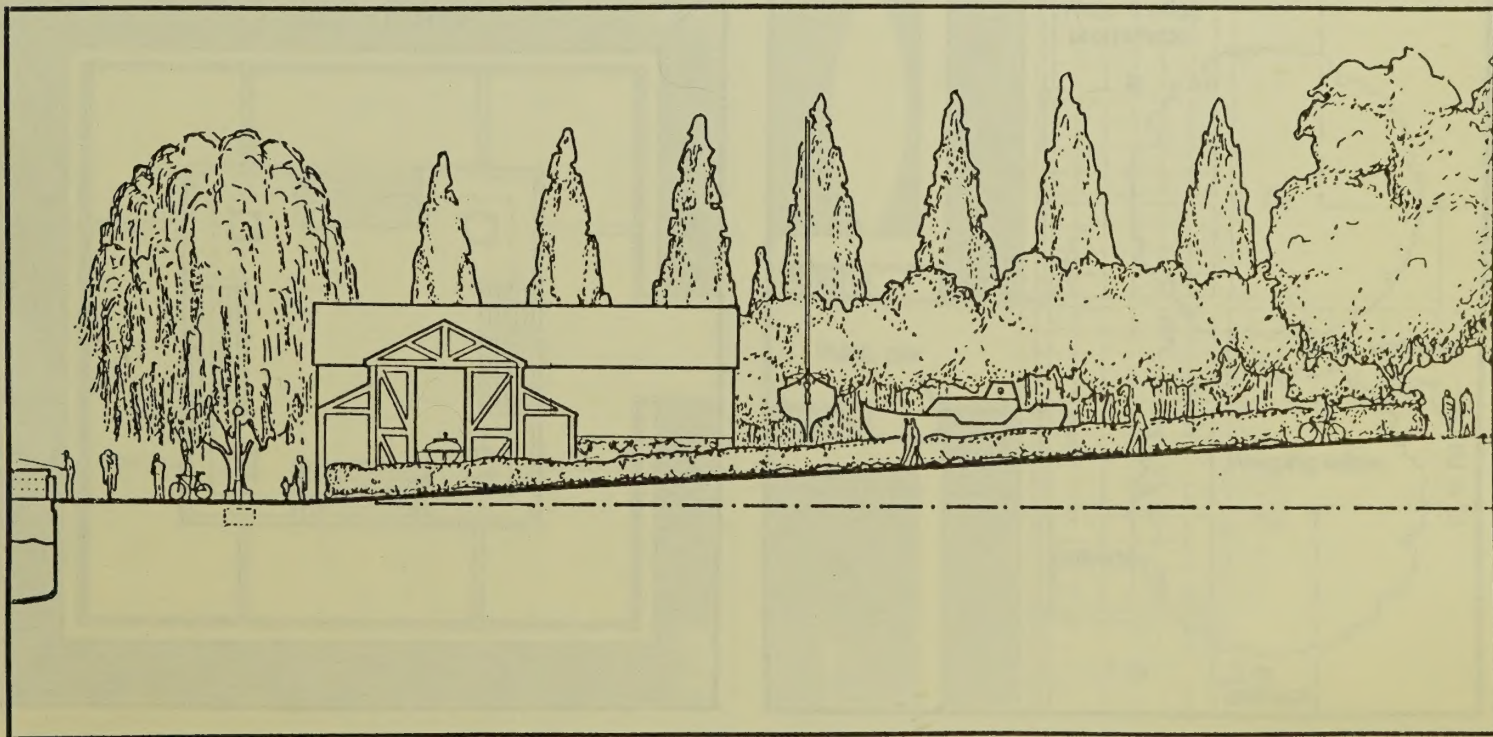
4. Boardwalk

The water's edge walk here becomes a traditional boardwalk along the land side of the marina, bringing the public right into the interest and action of the waterfront. On the water side of the boardwalk the finger piers would extend out into Macassa Cove. On the land side permanent facilities for the clubs and marinas and for marine-related commercial facilities would be developed.

5. Waterfront Development Areas

The area of land between the boardwalk and the waterfront drive should be developed as land support areas for the marine uses in Macassa Cove. This land should be appropriately subdivided between proposed yacht clubs and marina uses and any balance used to attract marine-related commercial ventures such as a ship's chandler or marine supply store.

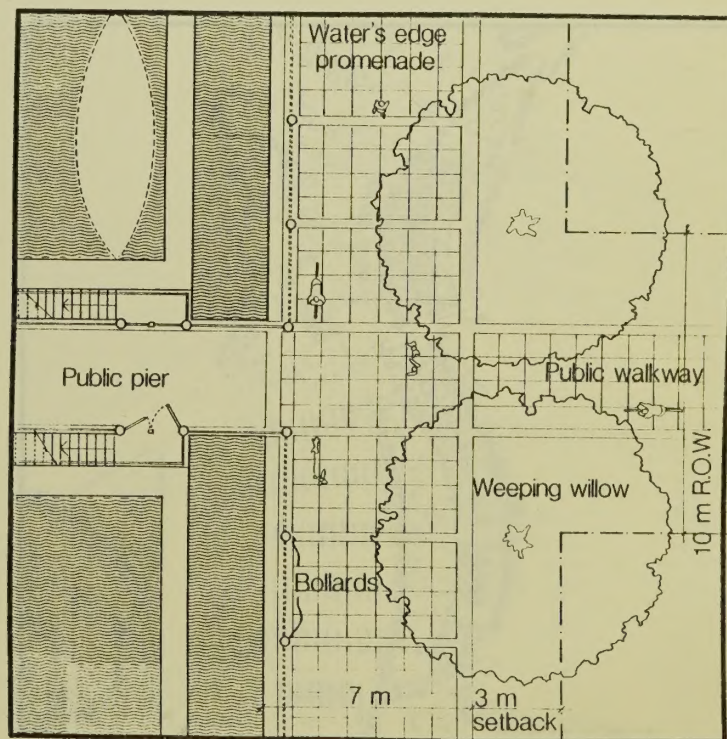
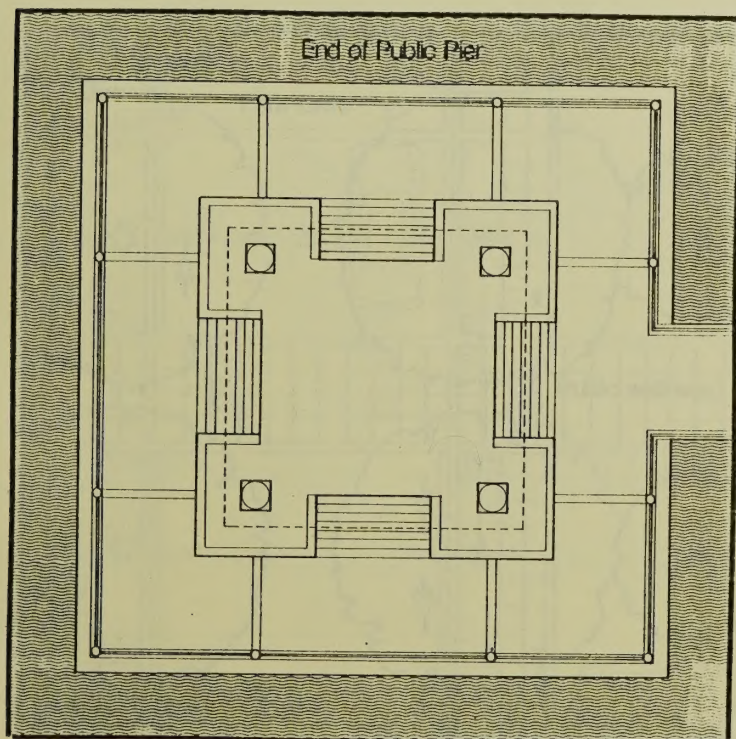
Over time development of this zone should be



encouraged to fill in the land side of the boardwalk with interesting and compatible uses with a distinct marine flavour. The scale of this development should be kept low so as not to block views from the North End neighbourhood. This area can also be used for parking and winter boat storage. It is important that provision for winter boat storage be made in association with the marina since such storage is an important element in any marina's economic feasibility.

6. Central Pier

A central publicly accessible pier is proposed so that people strolling along the boardwalk can go out and look at the activity in Macassa Cove and observe the interesting ships on the Island Wharf.



7. Waterfront Drive

A waterfront drive is proposed at the base of the bluff behind the waterfront development areas. This drive performs a number of functions.

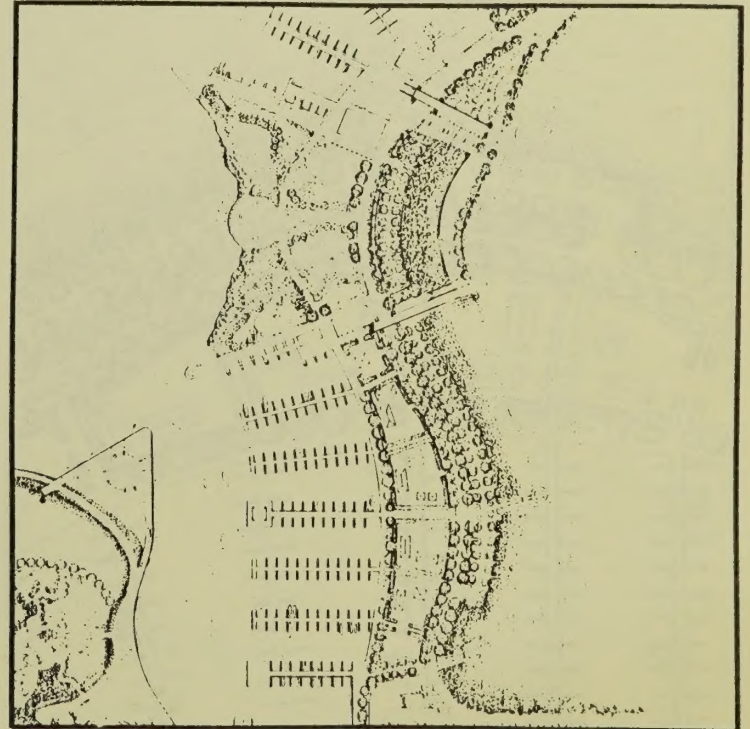
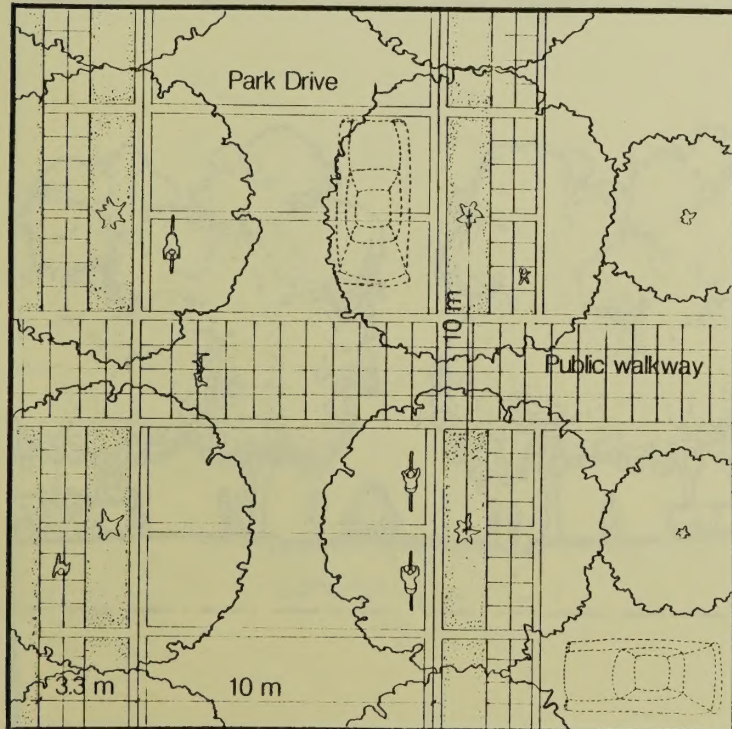
First, it acts as a clear and simple route to access the main waterfront parking area, particularly for those arriving and departing from the east. This route will avoid the necessity for such drivers to filter through the North End neighbourhood.

Second, the drive will provide simple access to

all of the uses and activities in the zone between the Island and Pier 4 and avoid the need for U-turns created by the present discontinuous access system.

Third, the drive will provide access and views of the waterfront for those who cannot easily walk and at times of year when the weather makes walking unattractive.

The design of this road must however emphasize that the waterfront drive is a park road, with low

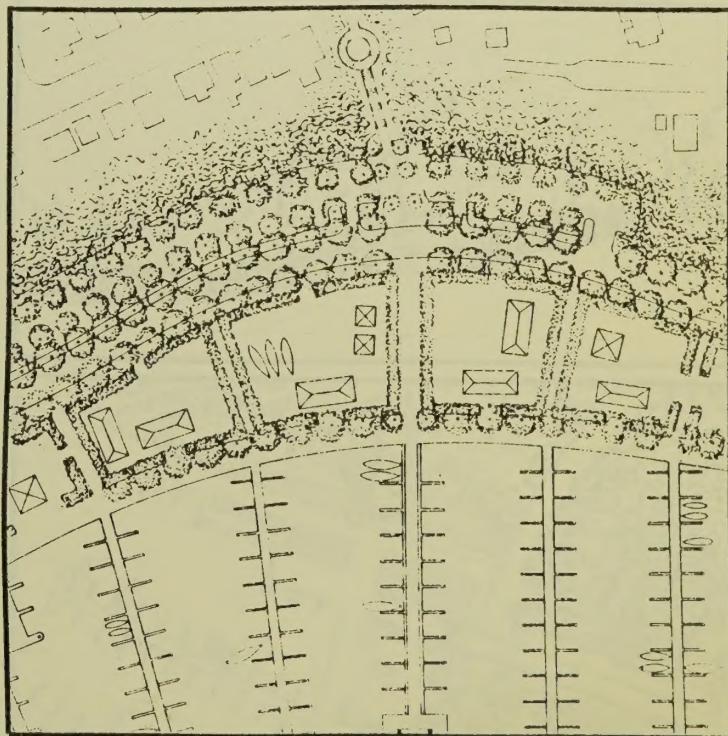
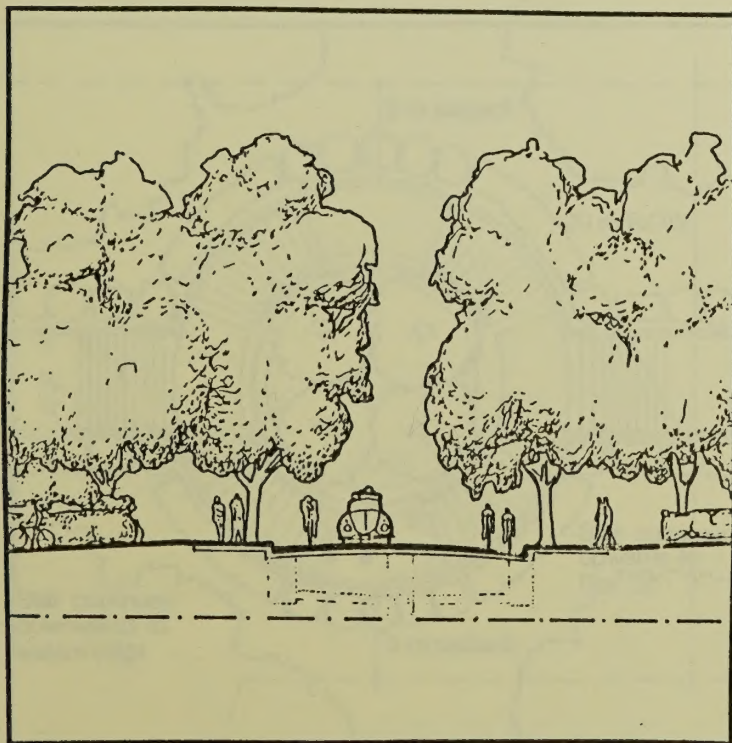


speeds enforced through speed bumps, and with a surface material that distinguishes it from the normal road.

8. Parking Lots

Two small parking lots are provided to service the middle section of the waterfront. A total of approximately 140 cars can be accommodated. These lots should also be available for winter boat storage.

The plan opposite indicates an alternative configuration for parking which would preserve most of the grassy bank opposite Pier 4 at the loss of 16 parking spaces.

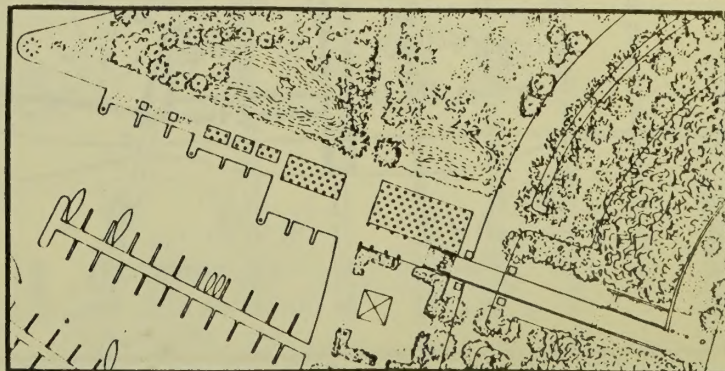
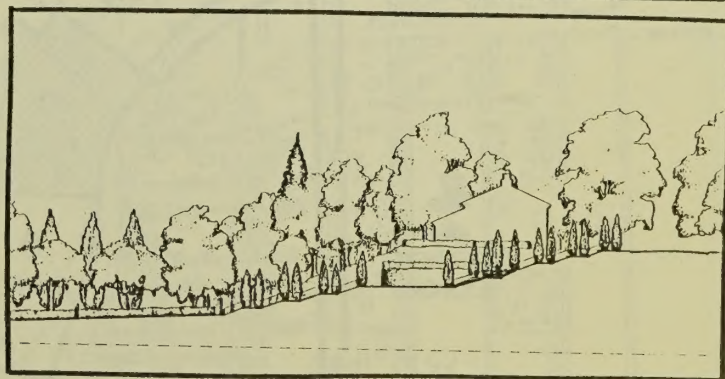
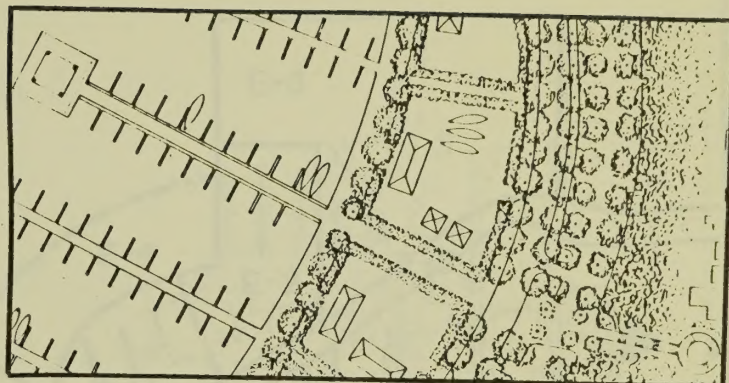
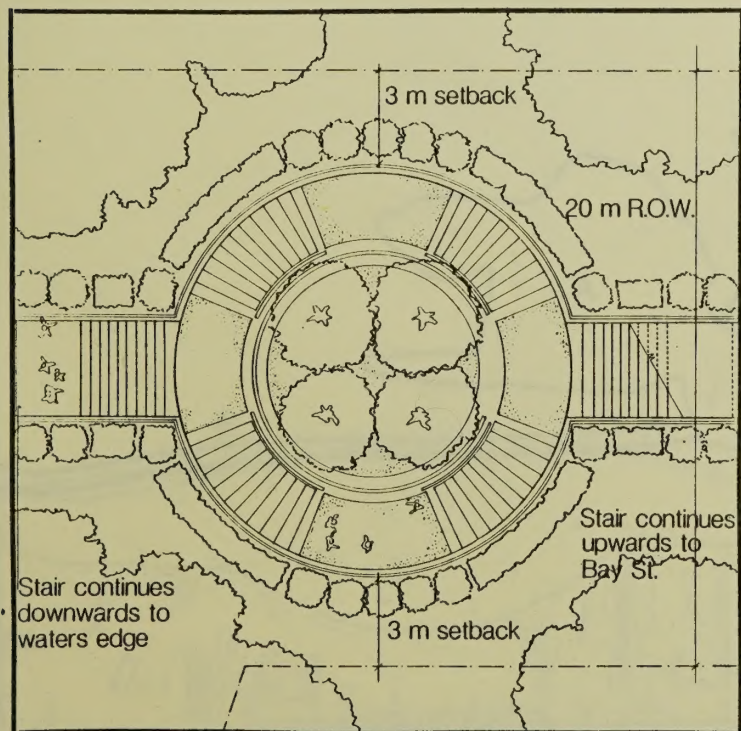


9. Marina Stores

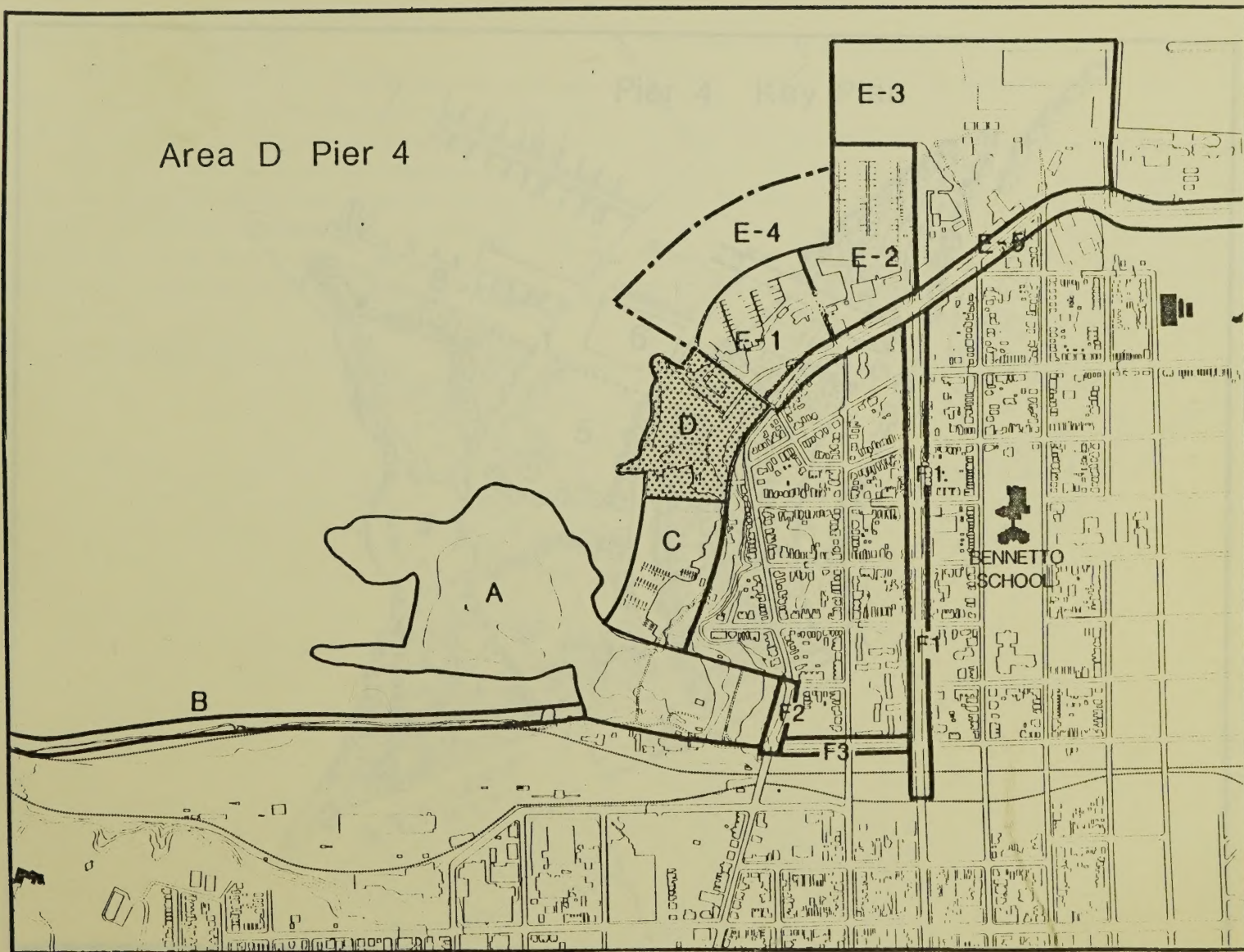
An area at the north end of Macassa Cove is indicated for a marina store, gas, pump out and travelling crane and as a base for management of the marina and marine boat sales.

10. Steps

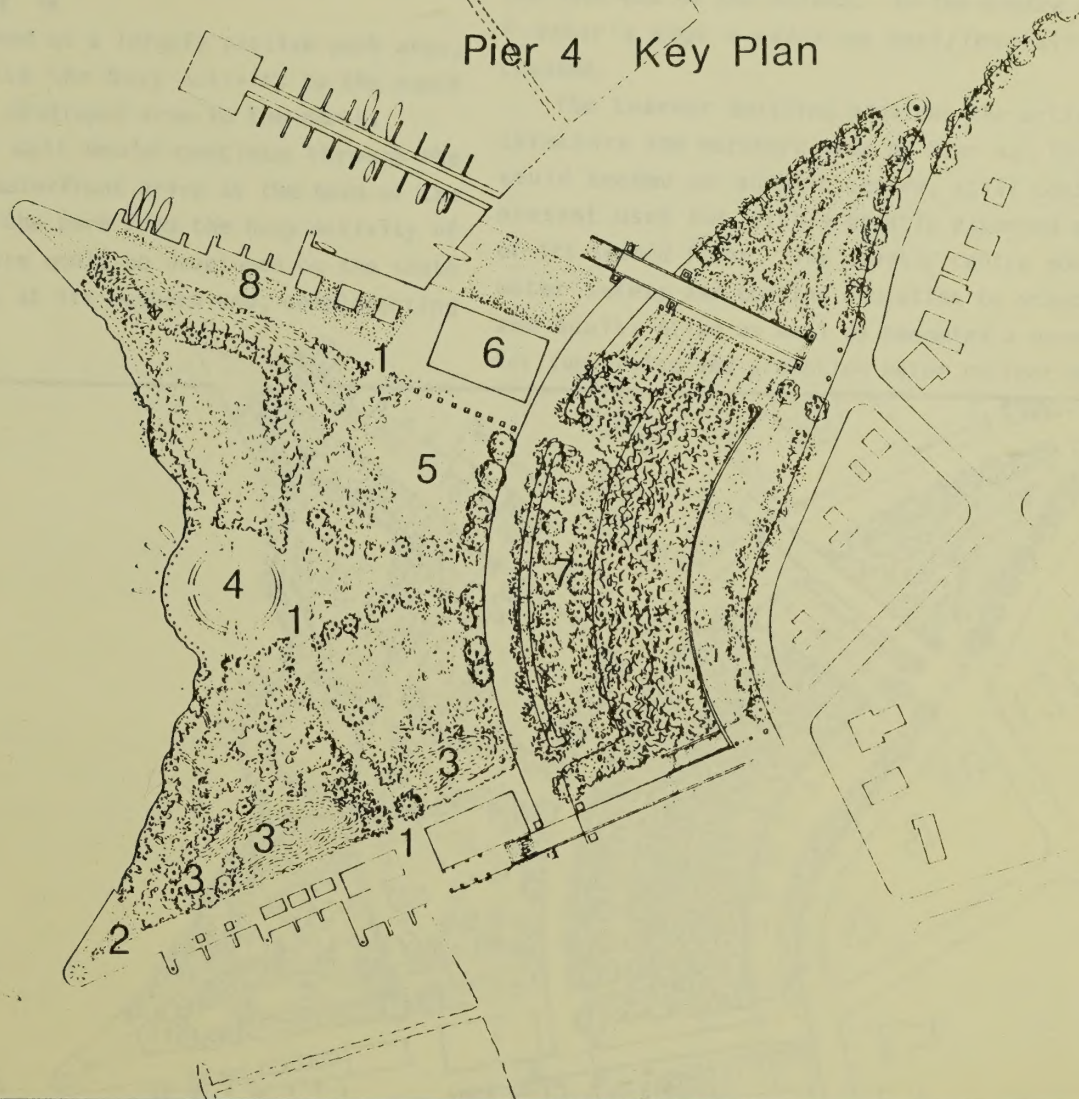
Steps have been indicated from the waterfront drive up to the North End neighbourhood at the ends of Ferrie and Picton Streets.



Area D Pier 4



Pier 4 Key Plan



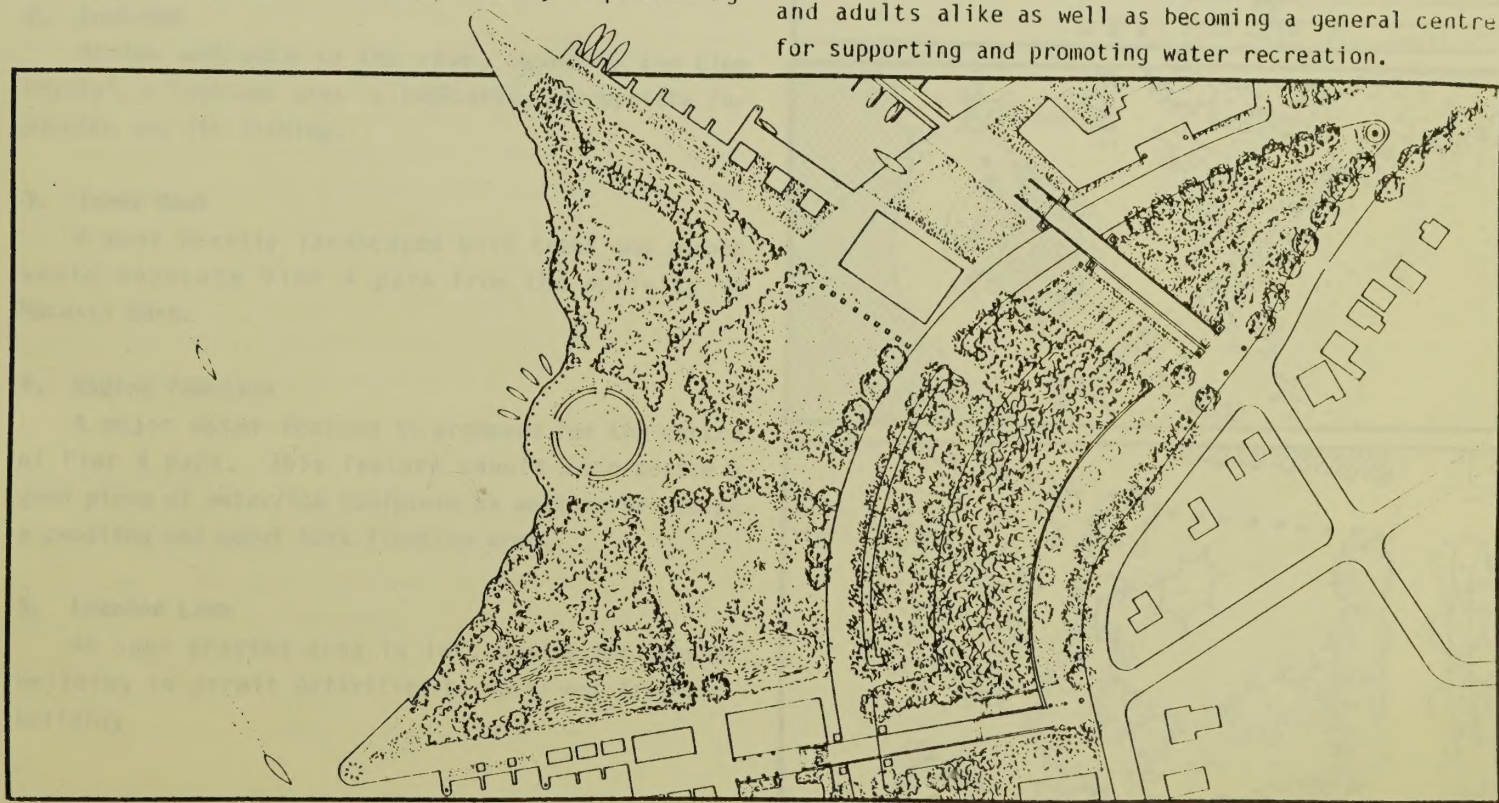
Area D Pier 4

Pier 4 is designed as a largely passive park area, as a counterpoint to the busy activity to the south and the potentially developed area to the north.

The waterfront walk would continue through the park as would the waterfront drive at the base of the bluffs. To protect the park from the busy activity of the marina a high berm would be developed on the south side with a look-out at its western end, complementing

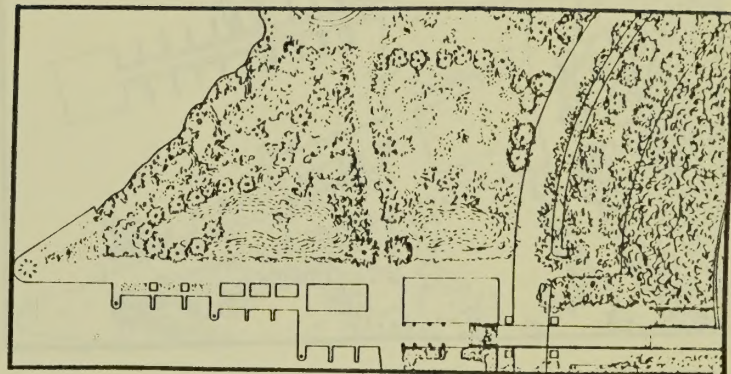
the look-out on the Island. In the centre of the Pier 4 water's edge a paddling pool/fountain has been created.

The Leander Building provides the activities that structure the northern area of Pier 4. This building would become an aquatic centre, still containing its present uses but with a greatly expanded utilization of its second floor. The aquatic centre would provide water safety and boating education to school children and adults alike as well as becoming a general centre for supporting and promoting water recreation.



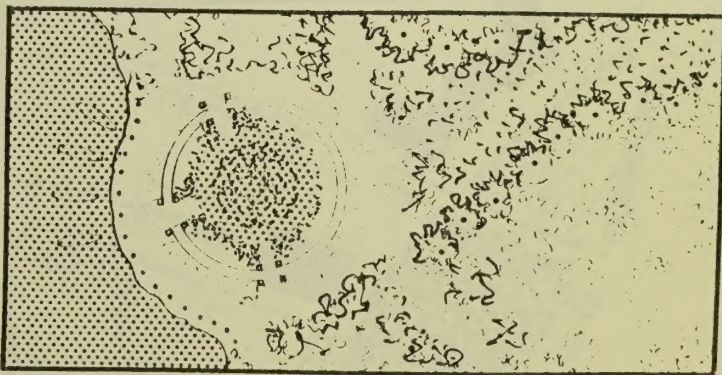
1. Pier 4 Walk

The Pier 4 section of the water's edge walk makes the transition between the busy "messaging about in boats" in Macassa Cove and the quieter area of Pier 4 park. The walk passes over a wooded bank that screens the cove from the park, opens onto the waterfront beside a major water feature and then connects to the Leander building.



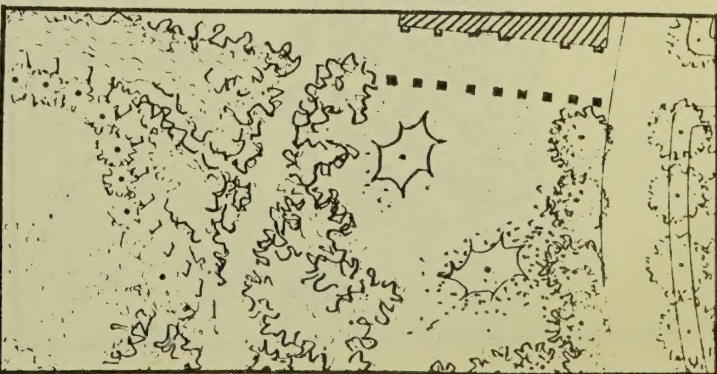
2. Look-Out

At the entrance to the cove, opposite the Cine Crystal, a look-out area is indicated, appropriate for picnics and for fishing.



3. Treed Bank

A bank heavily landscaped with trees and shrubs would separate Pier 4 park from the activity in Macassa Cove.



4. Wading Fountain

A major water feature is proposed for the centre of Pier 4 park. This feature should incorporate a good piece of water/ice sculpture as well as providing a paddling and model boat floating area.

5. Leander Lawn

An open grassed area is left beside the Leander building to permit activities to spill out from that building.

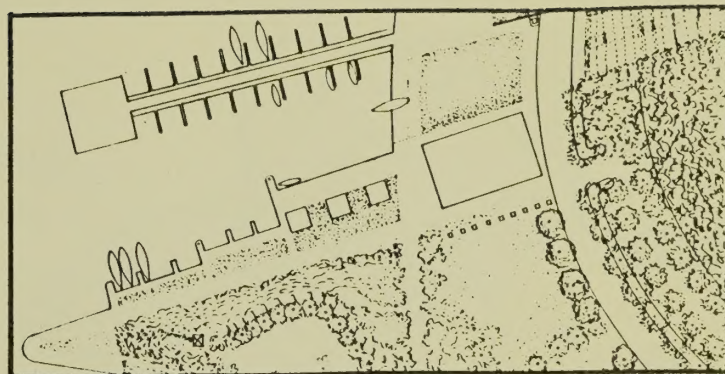
6. Leander Aquatic Centre

The present rowing functions of the Leander Club are a valuable and distinctive feature of the waterfront. These should be maintained in this location. Much greater use should however be made of the Leander building, in ways that are compatible with its potential and function.

The large second floor area is now used on a regular but occasional basis for social events. This space should be cheaply adapted for use as an aquatic centre providing water safety, boating information and water sports training to school children during the day and for adults in the evening.

The Leander building should also be the location of a windsurfing rental concession, removing that activity from the activity of Macassa Cove.

The land under and around the Leander Building on the north side of Pier 4 is owned by the Harbour Commission whose cooperation will be necessary for implementation of these proposals.

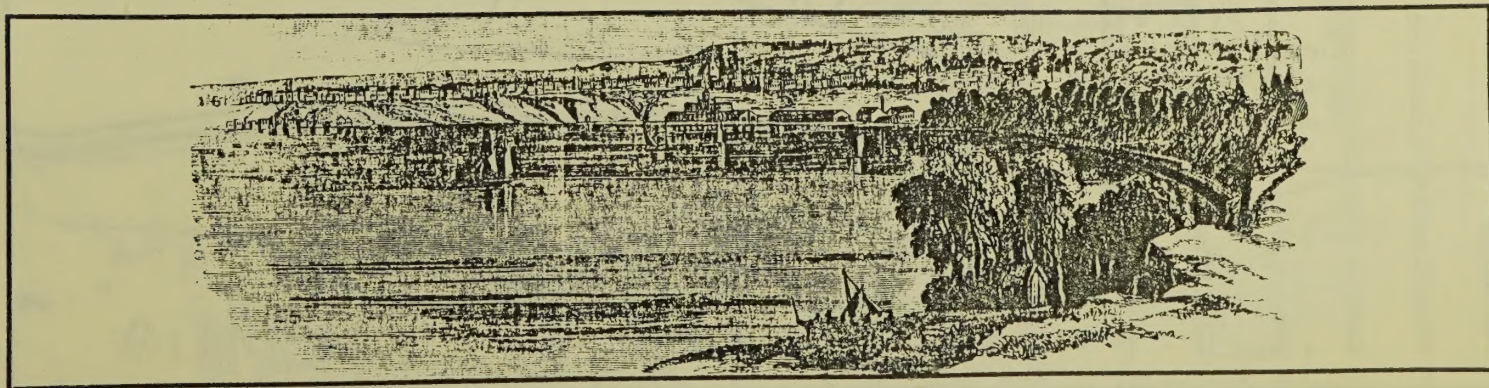


7. Parking Lot

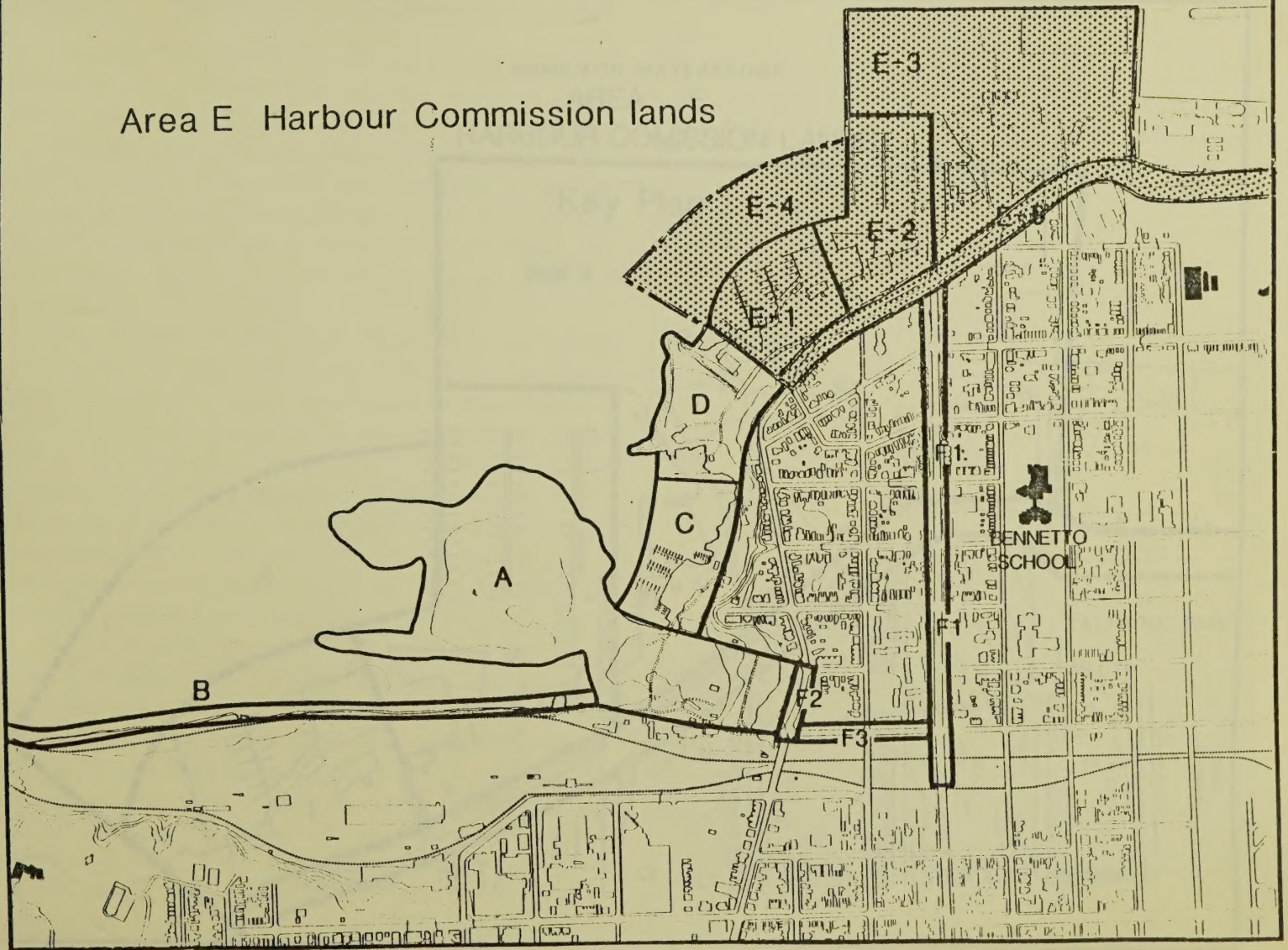
A parking lot with a capacity of approximately 74 cars is indicated to service the Pier 4 and Leander functions. The plan opposite indicates an alternative location for this parking lot, intended to preserve more of the green space of the bluff by relocating the lot northwards. This attractive alternative design is achieved at the loss of 14 parking spaces.

a. Dinghy Sailing Area

An area adjacent to the aquatic centre should be reserved for a dinghy sailing area. The launch area should be outside the entrance to Macassa Cove to permit easy sailing access.



Area E Harbour Commission lands



HAMILTON WATERFRONT
AREA E
HARBOUR COMISSION LANDS

Key Plan

PIER 8

3

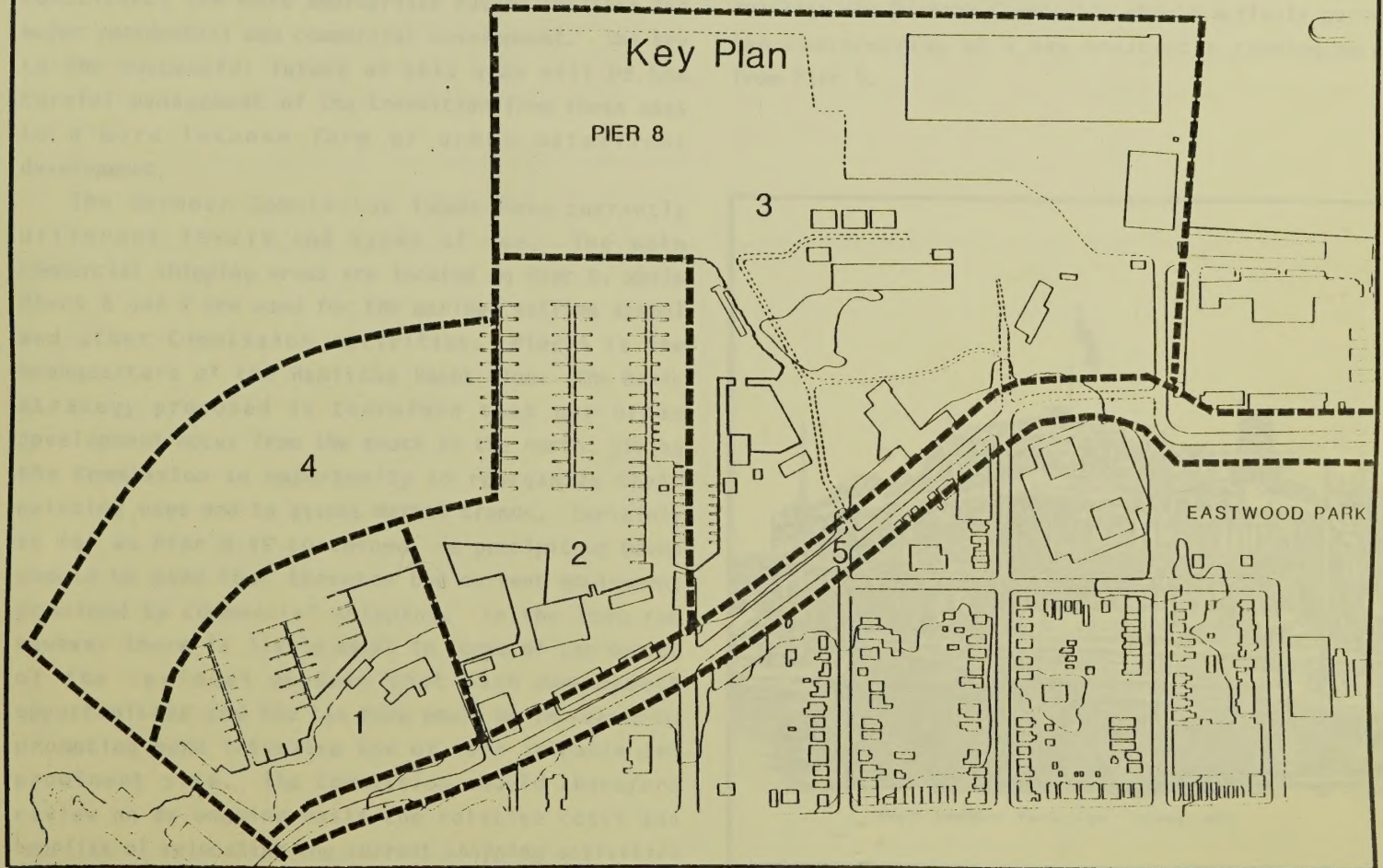
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2

5

EASTWOOD PARK

1



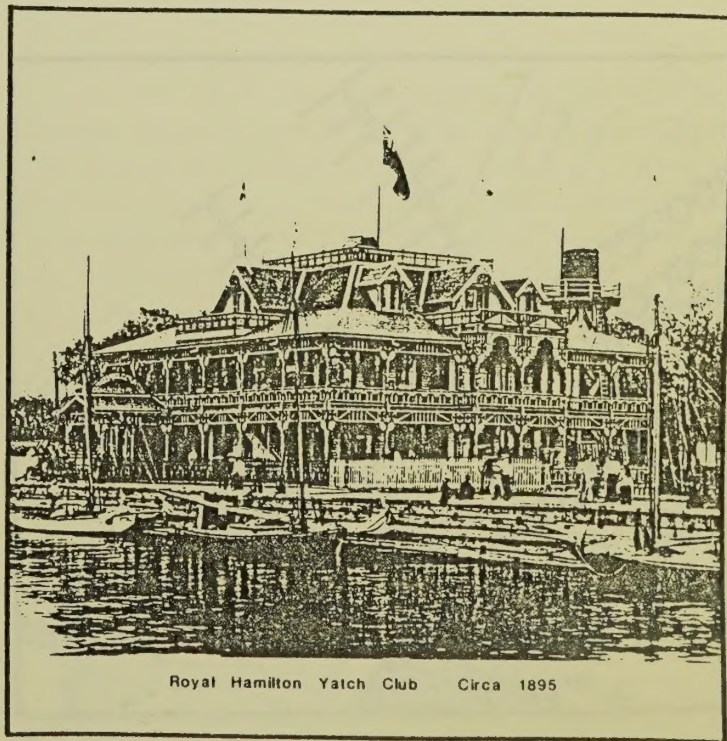
Area E Harbour Commision Land

The Hamilton Harbour Commission are the owners of the waterfront lands north of Pier 4. This area, while now in yacht club, marina or shipping use, constitutes the most appropriate future location for major residential and commercial development. The key to the successful future of this area will be the careful management of the transition from these uses to a more intense form of urban waterfront development.

The Harbour Commission lands have currently different levels and types of use. The main commercial shipping areas are located on Pier 8, while Piers 6 and 7 are used for the marina, sailing school and other Commission activities. Pier 5 is the headquarters of the Hamilton Yacht Club. The basic strategy proposed is therefore that new urban development occur from the south to the north, giving the Commission an opportunity to reorganize their existing uses and to assess market trends. Certainly as far as Pier 8 is concerned, no precipitous moves should be made that threaten the current employment provided by commercial shipping. In the long run however there is little doubt in terms of the health of the regional economy that both employment opportunities and the tax base would be increased by promoting more intensive use of this valuable and prominent site. The Commission should therefore review on an ongoing basis the relative costs and benefits of relocating the current shipping activities

to the East Port or other appropriate harbour locations.

This area of the waterfront also constitutes the best and most available location for the development of a major new marina. If and when such demand develops the Harbour Commission should actively pursue the construction of a new breakwater running north from Pier 5.



Royal Hamilton Yatch Club Circa 1895

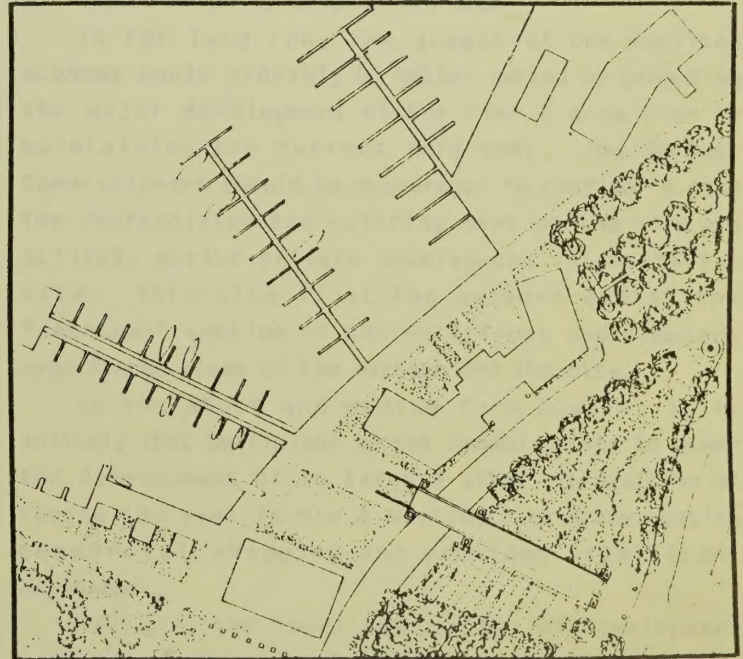
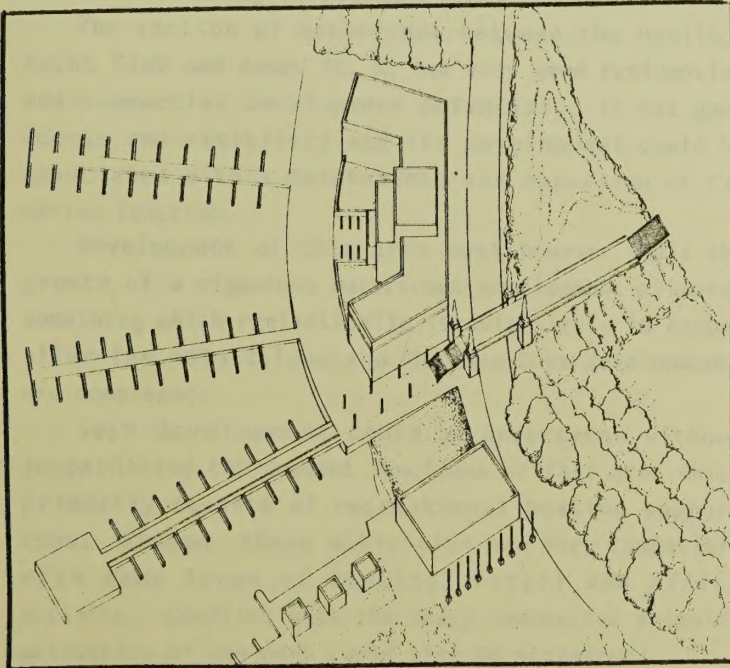
1. Waterfront Hotel

The present site of the Hamilton Yacht Club provides the best immediate location for a hotel in the entire Hamilton waterfront. The parking lot and dinghy storage area are more than adequate for the development of a feature that is badly needed. A hotel would provide a year round presence, it would emphasize the development of tourism in downtown Hamilton and it would be an important show piece for the city.

It would also represent the first major component of what should be an increasing amount of private commercial and residential development on the

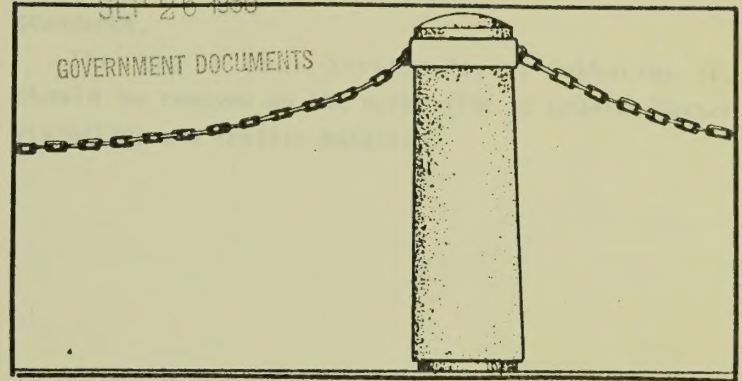
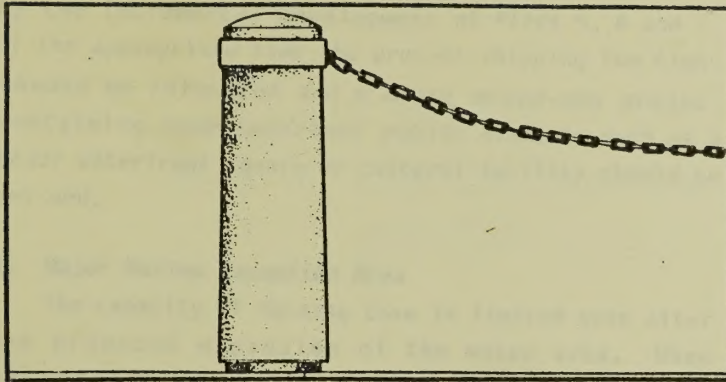
waterfront, adding substance to what is otherwise a primarily recreational and marine-oriented development. The Harbour Commissioners and the yacht club should be encouraged to issue a proposal call for hotel development on site once the development of the waterfront is visibly underway.

The site is most appropriate for a small or mid-sized inn-type hotel. Buildings should be restricted to about four storeys to minimize impacts on views.



SEP 26 1985

GOVERNMENT DOCUMENTS



2. First Priority Development Areas

The section of waterfront between the Hamilton Yacht Club and James St. N. has very good residential and commercial development potential. It has good access and visibility and its development could be associated with a maintenance and expansion of the marina function.

Development of this area must however await the growth of a vigorous waterfront development climate, something which realistically is only likely to happen after the main Island and Macassa Cove developments are completed.

Such development could be undertaken without jeopardising the present functions of that area which primarily consist of recreational boating support uses. Indeed, those activities are very compatible with many forms of housing, retail and office activity. Conflict with the heavy commercial shipping activities of the port could also be minimized.

3. Second Priority Development Area

In the long run, the growth of the Hamilton economy would probably be better served by promoting the major development of the Pier 8 area than by maintaining the current port uses. The Harbour Commissioners should be encouraged to consider a plan for reorganizing the existing uses on the site and actively pursue private development interests for site. This site is at the eastern end of the "downtown" section of the waterfront and commands magnificent views of the Harbour and the city.

In the short and medium term however it is unlikely that sufficient market demand exists to power the development of so large a site. In addition of course the pier is now a working pier accommodating commercial shipping and provides significant employment.

However, the speed and success of development activity on the waterfront will be able to be judged

by the incremental development of Piers 5, 6 and 7. At the appropriate time the present shipping functions should be relocated and a major mixed-use project containing some important public elements such as a major waterfront square or cultural facility should be pursued.

4. Major Marina Expansion Area

The capacity of Macassa Cove is limited even after the proposed expansion of the water area. When waterfront activity begins to develop it is anticipated that demand by Hamiltonians and visitors for mooring space in this area will increase very dramatically. Such has been the experience of other cities.

The area north of the Hamilton Yacht Club and west of the Harbour Commission Marina could easily provide up to a thousand new marina slips. The incremental development of this area should be serviced by construction of a new breakwall originating on Pier 5 and moving north and east to a point opposite Pier 8.

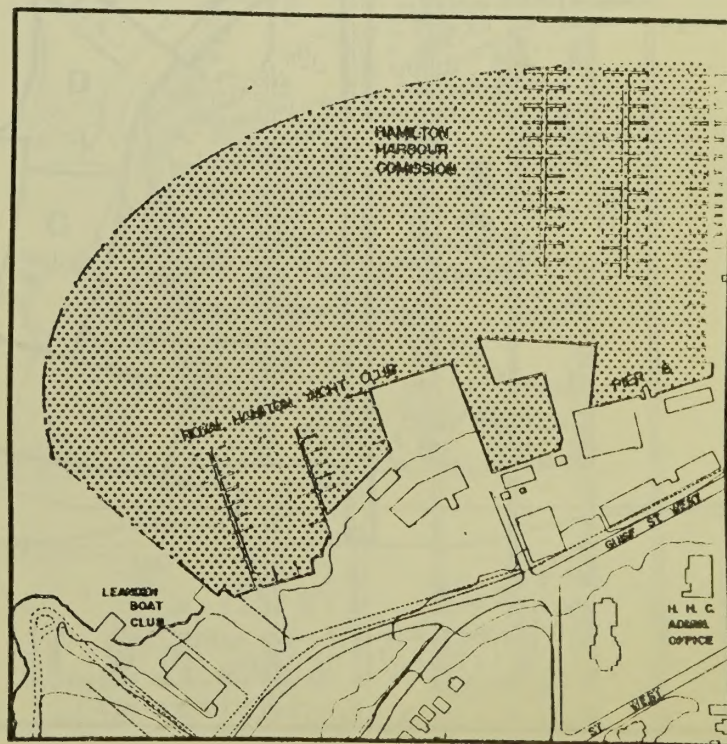
5. Waterfront Drive Improvements

The new waterfront drive should continue on to the north and east along the present Guise St. and Dock Service Rd.

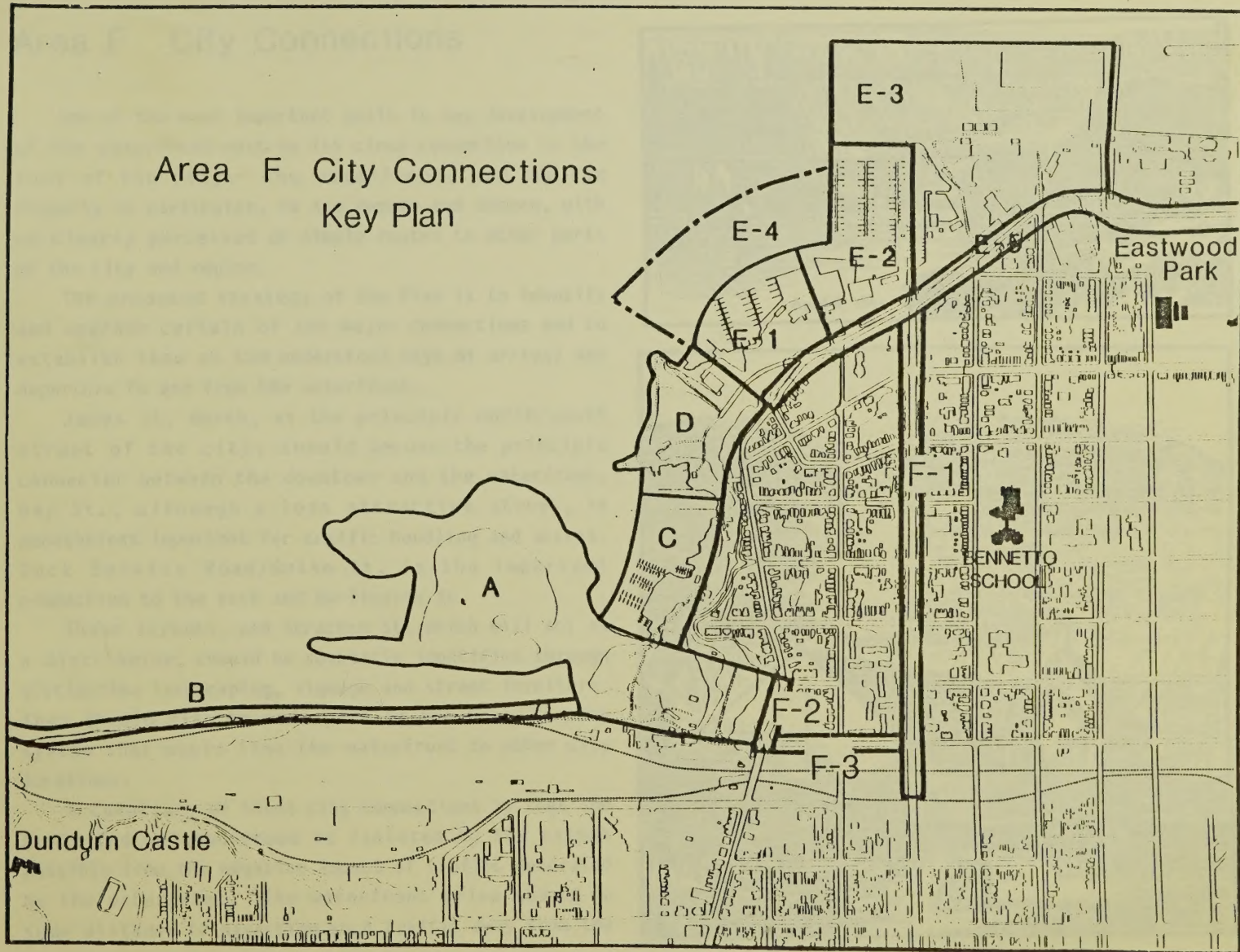
Those latter streets should be upgraded in terms of their landscape and surface quality to provide a better approach to the waterfront. The basic street section should consist of a sidewalk, grassed verge, trees on either side and new and consistent lamp

standards.

The jog in Dock Service Rd. at Catharine St. should be removed on the north side to provide better visibility and traffic handling.



Area F City Connections Key Plan



Area F City Connections

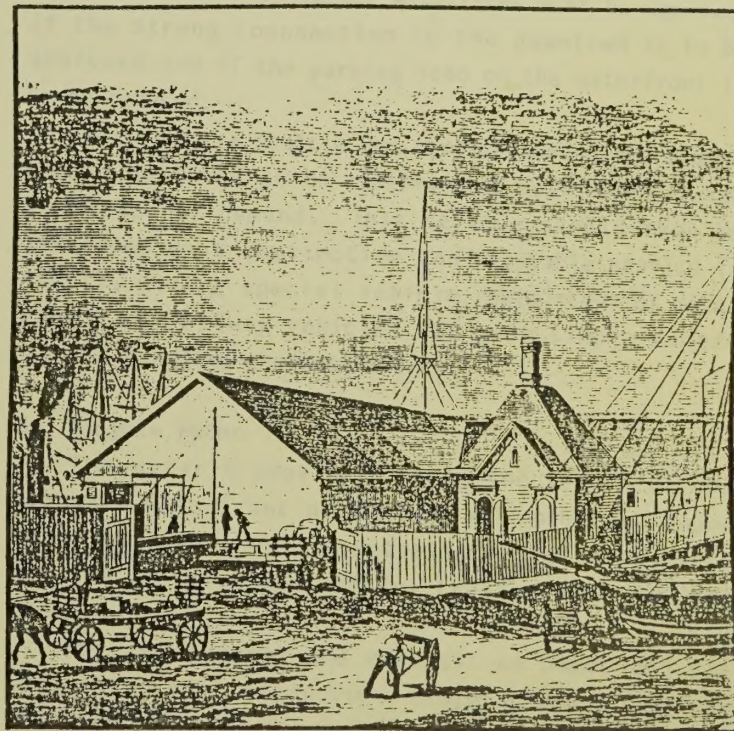
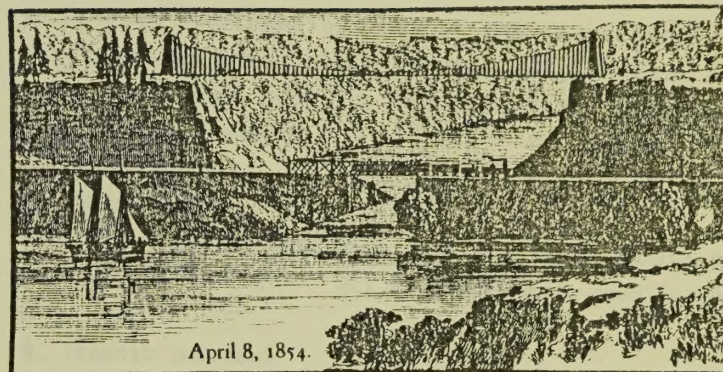
One of the most important goals in any development of the waterfront must be its close connection to the rest of the city. The waterfront, and the Lax Property in particular, is now remote and unseen, with no clearly perceived or simple routes to other parts of the city and region.

The proposed strategy of the Plan is to identify and upgrade certain of the major connections and to establish them as the understood ways of arrival and departure to and from the waterfront.

James St. North, as the principle north/south street of the city, should become the principle connector between the downtown and the waterfront. Bay St., although a less attractive street, is nonetheless important for traffic handling and access. Dock Service Road/Guise St. is the important connection to the east and Burlington St.

These streets, and Strachan St. which will act as a distributor, should be specially identified through distinctive landscaping, signage and street furniture. They should also be made part of the bicycle path system that would link the waterfront to other city locations.

A corollary of these city connections is that the North End neighbourhood be isolated to the extent possible from the negative impact of traffic generated by the waterfront. The waterfront drive should go some distance to diverting such traffic away from the



neighbourhood, but it is also important that the local traffic management plan proposed for the area be implemented.

Much more use will have to be made of the transit connections to the downtown if the waterfront is to be a success. Initially a summer shuttle bus service should be tried and eventually a distinctive waterfront transit service created.

1. James St. N.

James St. N. should be highlighted as a major waterfront connection to the downtown.

The tree planting south of Strachan should be extended north. Consideration should be given to utilizing the lamp standards for waterfront drive up James St. to the downtown and using other symbolic devices such as banners and planter boxes.

Two way traffic on James St. would also greatly add to the sense of linkage to the city. James St. N. should be the major route for parades, processions and festivals between the downtown and the waterfront to emphasize that symbolic linkage.

The waterfront terminus of James St. N. should be developed as a significant place with appropriate landscaping and street furniture, rather than the unattractive barrier that now exists.

2. Bay St.

Bay St. south of Simcoe St. is not an inherently attractive street at present, nor can it easily be

made one. Nonetheless use of the characteristic landscape features, trees, banners, planter boxes and lamp standards used for the waterfront will help overcome its drabness.

3. Strachan St.

Strachan St. between Bay and John should be widened and improved to act as an entrance road to the waterfront.

4. Transit Services

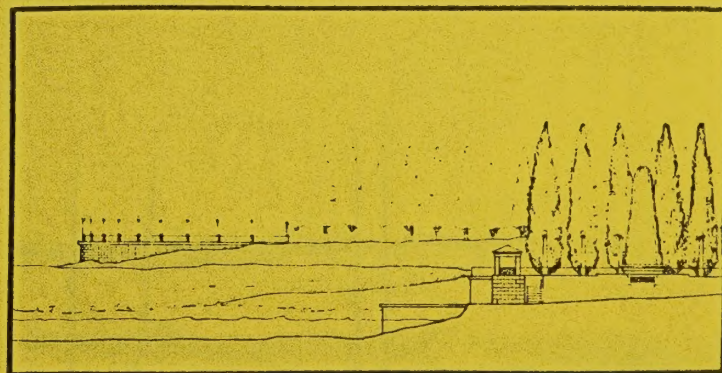
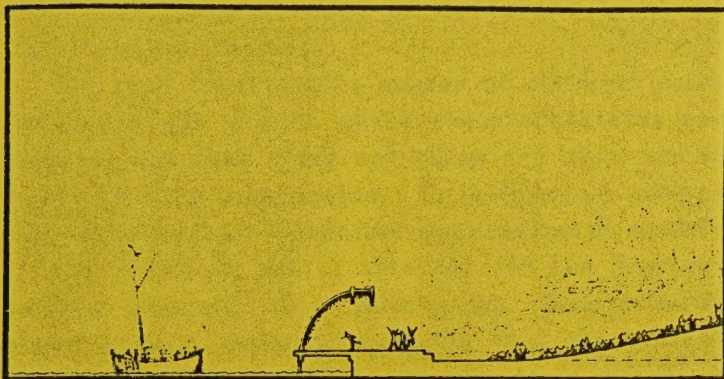
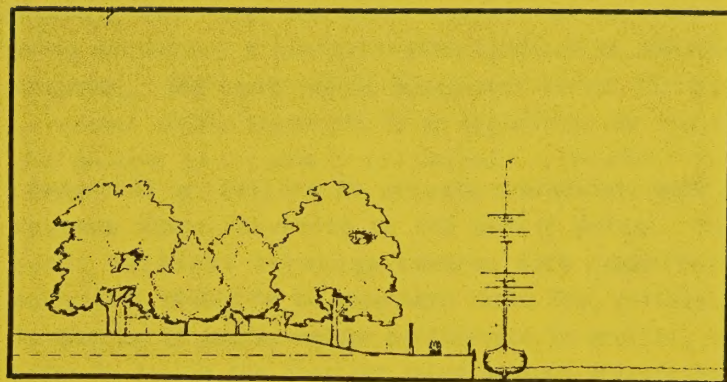
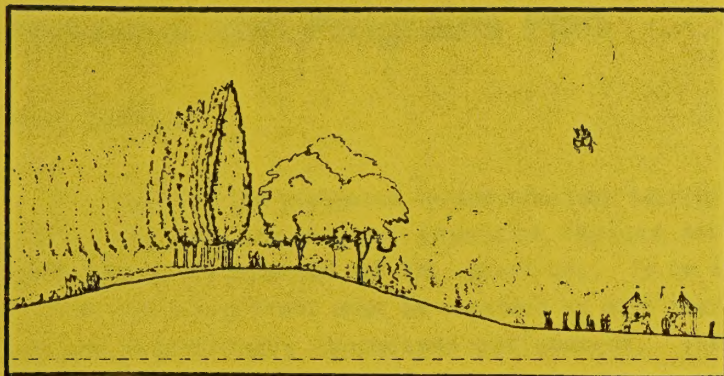
Transit service to the waterfront must be improved if the strong connection to the downtown is to be achieved and if the parking load on the waterfront is to be reduced.

Initially a shuttle bus service during the summer should be tried on an experimental basis even if not warranted by demand. This service should then be developed as a distinctive and enjoyable service in itself, with a special vehicle reminiscent of older Hamilton Railway vehicles but with simple modern traffic handling characteristics.

5. Bicycle Paths

The water's edge walk along the length of the proposed waterfront development will provide a major link in what should eventually become a complete bicycle, jogging and walking trail around Hamilton Harbour.

The improvement and emphasis on James and Bay Streets as city connections should also not overlook the pedestrian and the cyclist.



Activities and Programs Plan 4.

Activities and Programs Plan

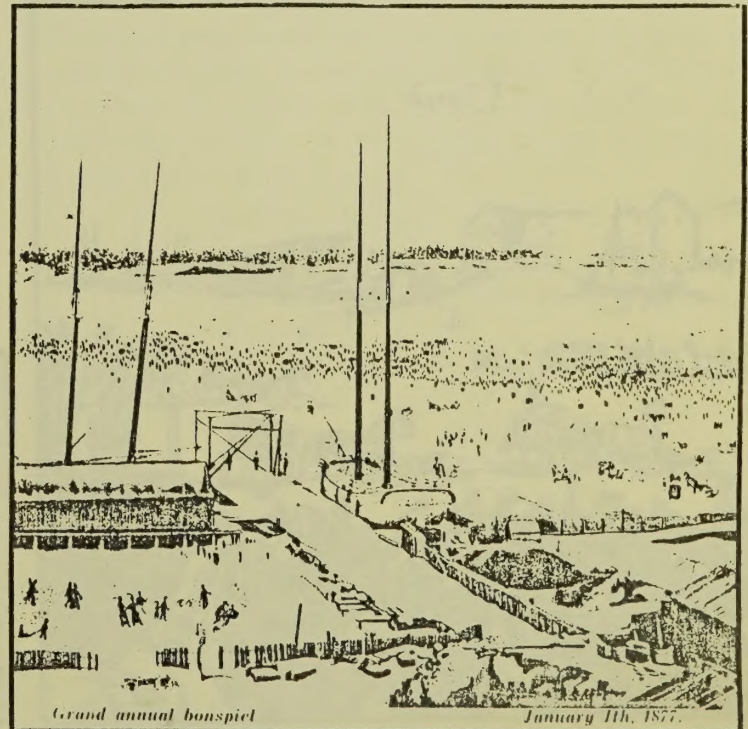
BASIC STRATEGY

The Master Plan presented in the previous section represents the sum of the physical changes and improvements recommended for the waterfront. To be a success the waterfront must be regarded as more than just an attractively landscaped environment. The proposed waterfront plan must become a stage for a wide and diverse range of different types of activities and programs.

The plan identifies a number of different areas and buildings within which those activities and programs can take place and these are discussed in detail later in this section. It is important however that the waterfront be managed and promoted as a whole if the greatest public interest and the greatest revenue potential is to be achieved. Observation of other similar projects suggests that the typical visitor to the waterfront is looking for a varied and diverse experience in which his or her total attendance time is lengthened by the ability to, for example, go to a puppet show at the amphitheatre, have a picnic on the lawn, browse through the antique market, stroll along the boardwalk and have a drink or a snack in the bridge restaurants.

The activities and programs promoted for the waterfront will constitute the core attendance drawing activities, with the food and drink, concession, Cine

Crystal, tour boat and other commercial activities being secondary activities with substantial revenue potential. The basic public management thrust for the waterfront should therefore be on organizing the major and minor non-commercial events, leaving the commercial activities to private operations, with a revenue share returning to the public purse. The basic business strategy towards such commercial activities should be to keep base rents low, certainly in the early years, and to participate in profits, in order to foster the greatest range of such activities.



THE LAWN

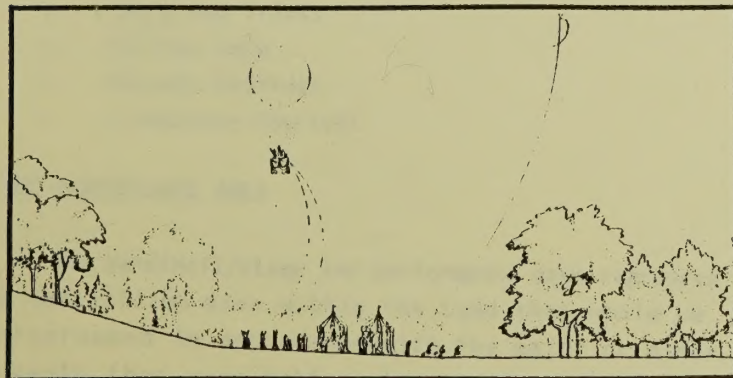
The Lawn and the associated bandshell/stage and performance areas provide an excellent location for major events now located elsewhere in the city that are not fully accommodated at present. The following major outdoor events and festivals should be accommodated:

Canada Day:

A three day multicultural festival, developed from the "It's Your Festival" program with fireworks displays, demonstrations of various ethnic and regional groups etc.

Fest-Italia:

A festival for Hamilton's largest ethnic group that once took place in Gage Park and now has declined in activity.



Festival of Friends:

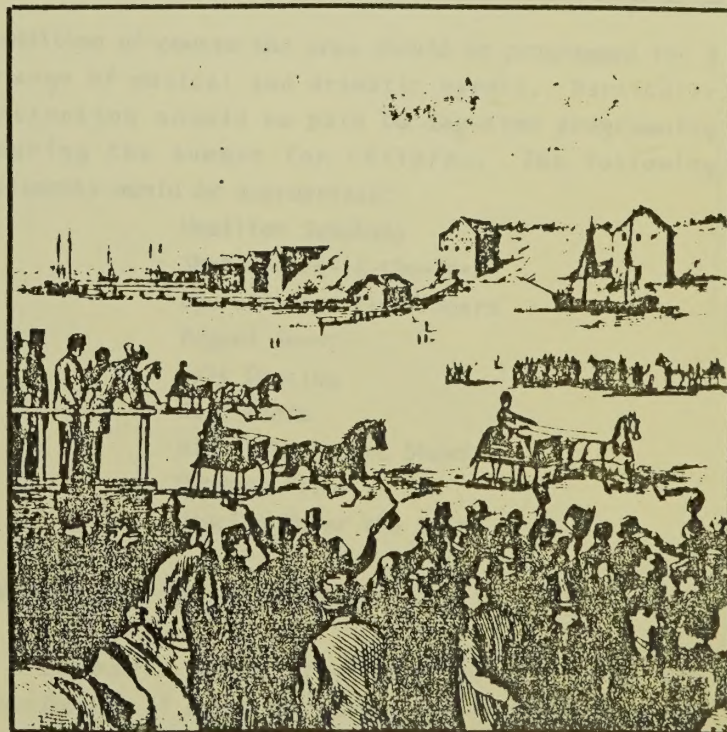
A festival now occurring in Gage Park in mid-August that could occur partly on the waterfront.

Labour Day:

Once at Gage Park, the Labour Day parade now ends in Dundurn Castle.

Winter Carnival:

The idea of a waterfront winter carnival has raised



great interest. A combination of a bonspiel, ice-boating, ice-boat racing, ice-sculpture, speed skating races and similar participatory and viewing events could be a great success.

Other Festivals:

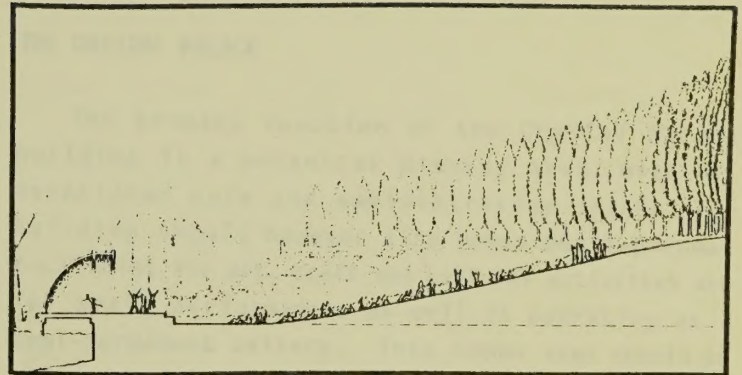
Many other new festival events might be appropriate, such as a War of 1812 Festival, a festival of antique steam yachts such as now exists and a "Renaissance" historical festival.

Many opportunities for smaller scale outdoor events exist for the lawn, some of which are compatible with the larger festivals. These events could be grouped as follows:

- o Folk Dancing
- o Highland Games
- o Mutt Show
- o Equestrian Show
- o Sheep Dog Trials
- o Balloon Race
- o Harvest Festival
- o Trampoline Festival

THE PERFORMANCE AREA

The bandshell/stage and performance area represent a specialized area within the Lawn that would be programmed in accordance with the major or minor events that were taking place on the Island. In



addition of course the area should be programmed for a range of musical and dramatic events. Particular attention should be paid to day-time programming during the summer for children. The following elements would be appropriate:

- Hamilton Symphony
- Shakespeare-in-the-Park
- Operetta and light Opera
- Puppet Shows
- Folk Dancing
- Jazz Bands
- High School Band Shows
- Outdoor films
- Dancing Under the Stars

MACASSA COVE AND THE HARBOUR

Emphasis must of course be placed on the development of water and marine activities. These are fun for both participants and observers. The

Hamilton-Scourge replica and the mooring of interesting ships as well as the general boating activity in Macassa Cove will be of great ongoing interest. In addition a number of specific water activities should be promoted that can use the Wharf and the Lawn as a viewing area:

- o Boat races of all kinds
- o Regattas
- o Water Ski Shows
- o Fireworks Displays
- o Visiting ships, both Naval & Tall Ships

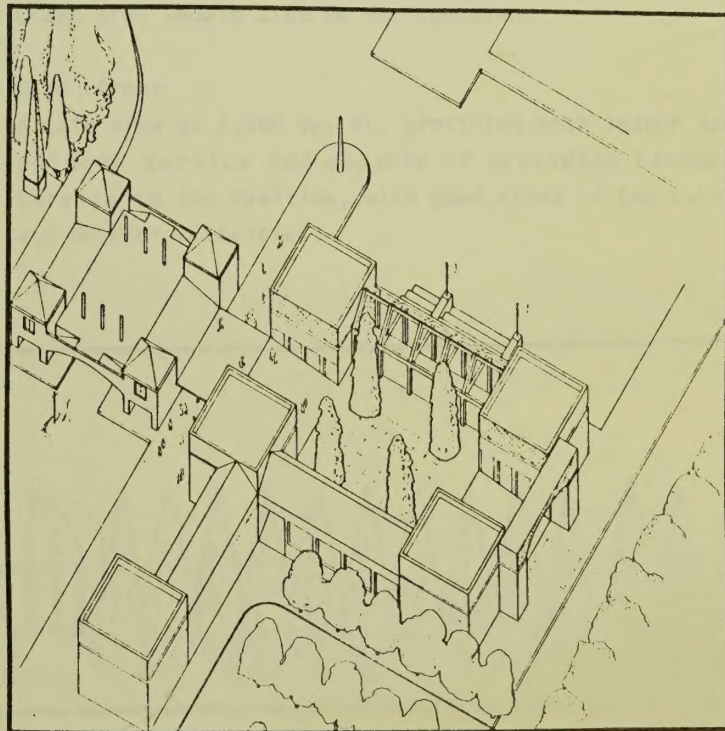
THE WATERFRONT PLAZA

Certain types of outdoor activities need a hard surface and easy access to parking and loading areas. These are recommended for the waterfront plaza area. These activities could include the following items:

- o Boat Shows
- o Farmer's Market
- o Antique Market
- o Garden Produce Shows
- o Arts and Crafts Shows
- o Antique Auto Shows
- o Antique and Classic Boat Shows
- o Garden Equipment Shows
- o Antique Auto Shows

THE CRYSTAL PALACE

The primary function of the Crystal Palace building is a botanical display area, with its associated cafe and administrative space. The building should however also house multi-purpose facilities for art, craft and cultural activities and for small performances as well as operating as a semi-permanent gallery. This indoor area should be utilized for a number of different events on a



year-round basis. In the summer and at the Winter Carnival time, these events can be coordinated with the outdoor festivals and events.

The basic philosophy of this indoor activity space is that it should be highly flexible and able to respond to the needs of groups and programs of very different scale and scope. All the activities should be compatible and collectively contribute to the success of the whole operation. Even the botanical function of the Crystal Palace, which might be separately managed and organized, could benefit from other ongoing activities designed to support and enhance the botanical displays.

Three basic areas are proposed within this structure in addition to the botanical, administrative and washroom facilities:

Pavilion:

A space of about 6,500 sq. ft. capable of holding approximately 1,000 people and about 100 tables for an

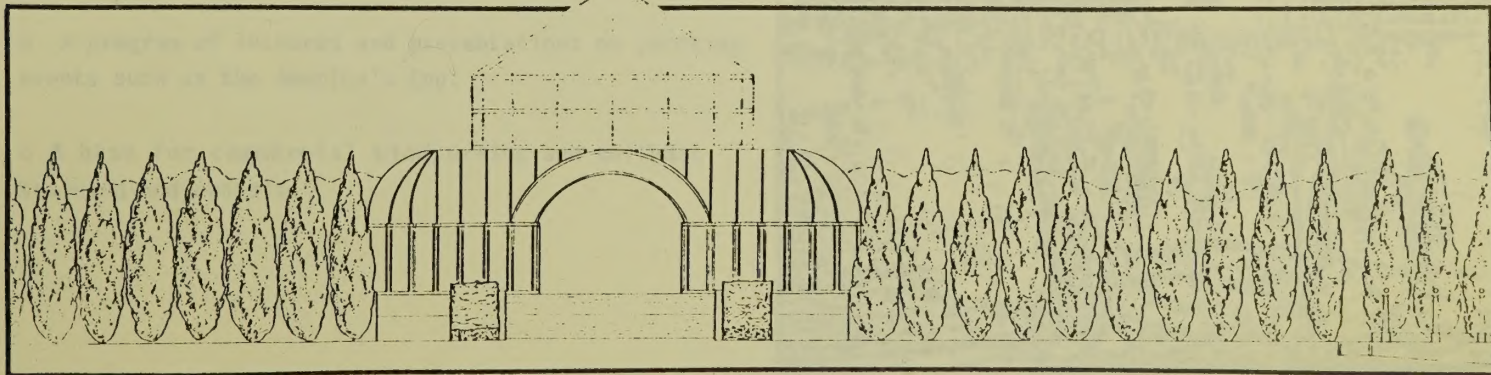
least three spaces with soundproof retractable walls. This space would be useful for small performances, dramas, lectures, concerts, dances and banquets.

Gallery Space:

A gallery space, which might be the corridor system leading to the Pavilion and the cafe area, of about 1,500 - 2,500 sq.ft. to support an art and photography exhibit space, craft exhibit space, viewable studio space for public studios, weaving, silk screening, quilting etc. and general exhibitions. A children's craft area should also be incorporated.

Cafe Area:

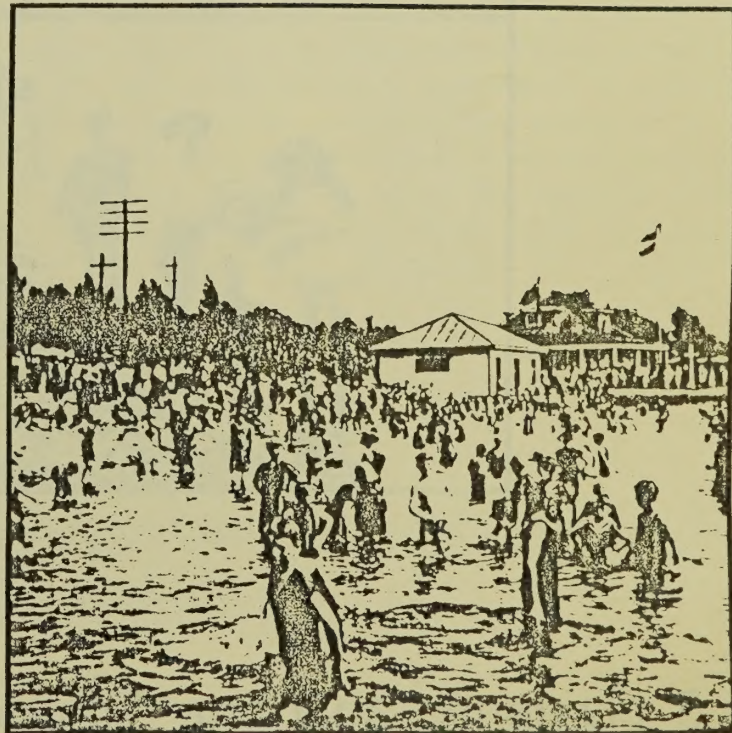
A cafe area of 1,500 sq. ft. providing both indoor and outdoor service and capable of providing banquet service to the Pavilion, with good views of the water and outdoor activities.

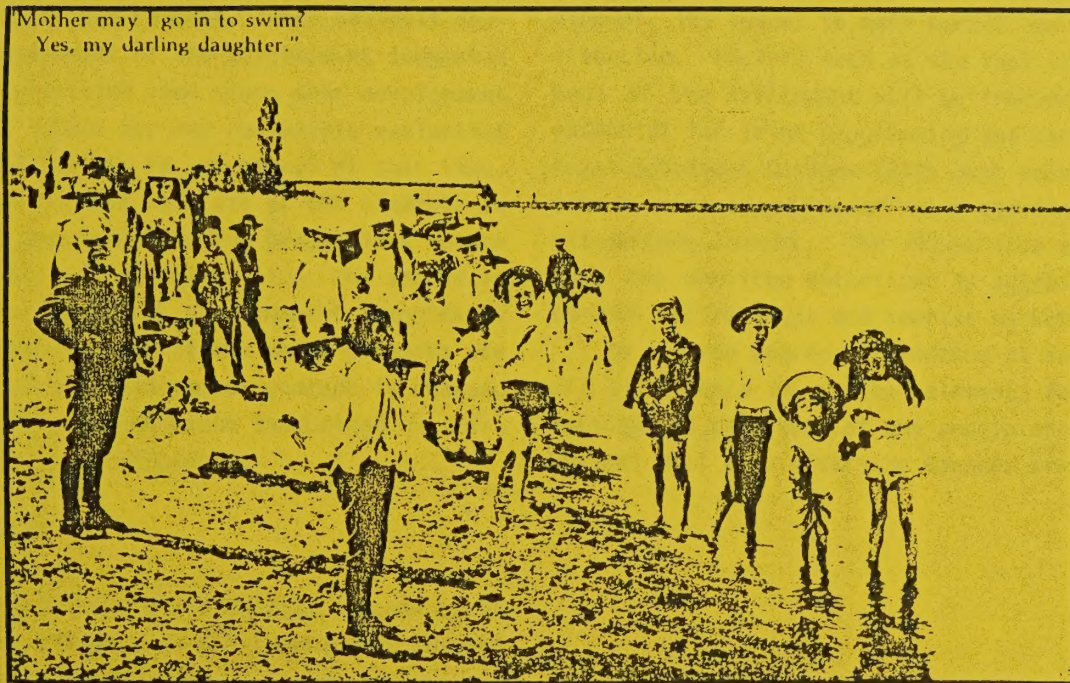


AQUATIC CENTRE

The broadening of the Leander Building's function to include a wider range of marine activities is intended to establish the Leander Building as the primary aquatic centre for Hamilton. That function involves not only acting as a base for rowing, small boat sailing and windsurfing, but also actively promoting boating and yachting and acting as an educational centre for general water safety and marine biology information. The following programs should be established here:

- o A school-by-the-water, that becomes a regular destination for school children, where exhibits and talks are presented on water safety, boating opportunities and skills, marine biology of the Hamilton Harbour.
- o A base for promoting regional, national and international yachting and other marine events in Hamilton Harbour.
- o A program of lectures and presentations on yachting events such as the America's Cup.
- o A base for commercial windsurfing and sailboat training and rentals.





Economic and Cost Analysis 5.

5.1 Economic Analysis

The material presented in the following pages is based on the development concept and programs described in this report and on a preliminary evaluation of the market potential and economics of the major elements of the concept. This analysis does not include an assessment of the development suggested for the Harbour Commission land since this development is too far in the future for any reasonable evaluation of its market potential to be undertaken at this time.

The analysis assumes that all of the elements in the concept are developed and the projections relate to a "normal" year of operations, i.e. the second or third year after the full development program is completed. If one or more of the major elements are not developed or if the development concept is changed substantially, the projections contained in this analysis could change significantly.

POTENTIAL ATTENDANCE

Table 5.1 summarizes the potential attendance at each of the major elements of the development concept for the Hamilton Waterfront. These attendance estimates represent people-visits to each element, not attendance by different persons. This means that a person visiting the Cine Crystal and the tour boat would be counted twice in the estimates.

The potential attendance levels were projected by examining the various markets that would be available

to the Hamilton Waterfront, such as the local and regional resident markets, tourists staying in the area and tourists passing through Hamilton. The potential success of the Hamilton Waterfront Development in attracting persons from each of these markets was determined by examining the nature of the element, its appeal to each market and the competitive situation. Factors such as the fact that admission to most of the development will be free-of-charge and the potential for joint programming and packaging with the Royal Botanical Gardens (with boat access) and Dundurn Castle were significant in projecting the potential attendance levels. The attendance estimates assume that the Hamilton Waterfront is aggressively marketed to both the resident and tourist markets available.

To a large degree, attendance at one element feeds off attendance at another element; for example it is anticipated that most of the people who visit the Cine Crystal will also visit the Gardens area.

**TABLE 5.1 - POTENTIAL ATTENDANCE AT MAJOR ELEMENTS
HAMILTON WATERFRONT DEVELOPMENT**

ELEMENT	POTENTIAL ATTENDANCE	OPERATING SEASON
Crystal Palace	(person visits) 80,000 - 100,000	Year-round as required for shows
Programs/Activities	Not available	Year-round with more extensive programs in summer
Cine Crystal	150,000 - 200,000	Full operation in summer, part-time/special festival operations in off-season
Bridge/Harbour/ Restaurants/Retail area	300,000 - 400,000	Spring, summer, fall
Tour Boats/Sightseeing RBG access	50,000 40,000 (round trips)	Summer only Summer only
Hamilton/Scourge (& other ships)	150,000 - 200,000	Daily in summer, weekends only in spring and fall
The Lawn	Not available	Year-round as required for festival events
General Site Visitation (incl. Island Blvd., Lagoon, Children's Play area)	400,000+	Year-round

NOTES: 1. These attendance figures are not mutually exclusive, i.e. total attendance at Hamilton Island will not be attendance at all elements added together but a percentage of the total.
2. Not available - no estimate of attendance is available for these elements because attendance is dependent on the nature of the programming and events.

It is difficult to project the potential attendance at several of the major elements of the concept because these elements involve events and programs at which attendance levels could vary significantly depending on the nature of the event. Specifically, this applies to the "Lawn" area which will be used for festivals and events and also to the programming component of the Crystal Palace facility. The Plan has not, therefore, made any attempt to project attendance to these elements.

The projection of general site visitation should be viewed as being very approximate. The volume of general site visitation to Hamilton Island will be affected by a large number of factors, including:

- o the image and atmosphere that is developed at Hamilton Island
- o the nature and quality of programs, special events, shows, etc., which are held
- o the success of Hamilton Island in attracting the tourist market
- o the level of publicity generated for the area
- o the development of Hamilton Island as a waterfront of "regional" as opposed to "local" significance.

The experience of Harbourfront in Toronto can be examined as comparable to the proposed Hamilton Waterfront development. Annual attendance at Harbourfront has increased from 840,000 in 1978 to 2.3 million in 1984. Over this period, Harbourfront has

become known as a major attraction and has developed extensive programming, special activities and events, etc. Hamilton Island cannot expect to reach these levels of visitation because of the much smaller size of its resident market. The estimate of general site visitation of 400,000 person visits will likely be exceeded once the waterfront development is well established and assuming extensive programming and special events.

OPERATING ECONOMICS

The analysis of operating economics for the proposed waterfront development includes two components - a projection of the potential income and expenses associated with each of the major elements and projections of costs related to the whole waterfront area.

Table 5.2 presents a summary of the estimated annual revenues and operating expenses associated with the major elements of the program and the major assumptions associated with these estimates. The cost estimates include allowances for the direct operating costs associated with each of the major components.

For the purposes of this analysis, it has been assumed that the overall waterfront development will be operated by the City of Hamilton. However, a number of the elements, notably the restaurants, retail areas, and the sightseeing cruise boat should be leased out to private concessionaires who have experience with these types of facilities. It has been assumed that these facilities are leased out with

TABLE 5.2 - PRELIMINARY ESTIMATES OF OPERATING REVENUE AND EXPENSES

FOR MAJOR ELEMENTS OF HAMILTON ISLAND

ELEMENT	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO GENERAL SITE COSTS	MAJOR ASSUMPTIONS
Crystal Palace Flower Shows	Not available	Not available	Not available	. assume that admission fees for the flower shows are sufficient to cover the majority of the direct operating costs of these shows.
Programs/ Activities	-	-	Nil	. assume that direct program revenue covers direct program costs. Indirect program costs are included with general site costs.
Cine Crystal	\$300,000-\$400,000 at an average admission price of \$3.00	\$250,000-\$275,000	\$175,000-\$350,000	. these estimates allow \$100,000 for film rentals. There is no allowance for the production of a special film on Hamilton. . assumes Cine Crystal operated by City.
Hamilton/ Scourge Replica	\$300,000-\$400,000 at an average admission price of \$2.00 Additional revenue of approximately \$30,000 could be generated through charters if this was feasible from a technical point of view.	\$250,000	\$50,000-\$150,000	. approximate operating costs include an allowance for drydock every 4-5 years and assume that the ship will be staffed with volunteer sea cadets.

TABLE 5.2 - PRELIMINARY ESTIMATES OF OPERATING REVENUE AND EXPENSES
continued
FOR MAJOR ELEMENTS OF HAMILTON ISLAND

ELEMENT	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO GENERAL SITE COSTS	MAJOR ASSUMPTIONS
Tour Boats Sightseeing	\$400,000 at average ticket price of \$7.00 & food revenue of \$1.00	-	\$20,000	. assume that the cruise boat is operated commercially and a fee of 5% of gross revenues paid for dockages, etc.
RBG access	\$40,000 at average of \$1.00 per person	\$100,000 (estimate)	(\$30,000)	. assume that any operating deficit for this access boat is shared with the RBG.
Bridge/Harbour Restaurants/ Retail Area	Food & beverage \$900,000-\$1,200,000 at average expenditure \$3.00 per person Merchandise: \$450,000-\$600,000 at average expenditure of \$1.50 per person	-	\$67,500-\$90,000	. assume that food, beverage and mechandise areas operated commercially and a lease of 5% of gross revenue paid.
The Lawn Festivals & Events	-	-	Nil	. assume that direct costs associated with festivals & events are covered by direct revenues. . general maintenance of this area included with general site costs.
The Lagoon	Nil	Water Treatment \$ 5,000 Lifeguards 20,000 (100 days, 4 guards per day) Supplies & 5,000 misc. 30,000	(\$30,000)	. assumes that Lagoon will be fully supervised, 7 days a week during the summer season.

the City of Hamilton receiving 5% of gross revenues generated by the business. In the case of the marina, it has been assumed that the City of Hamilton would be responsible for all capital development costs and would receive some \$30,000 annually from the marina operator (7% of estimated revenues from seasonal and transient dockage). An additional \$10,000 fee from the yacht club has also been assumed. It may also be possible to lease the Cine Crystal to a private operator.

Table 5.2 does not examine the potential revenues and operating costs associated with the rental of equipment such as canoes, sailboards or rowing boats or those associated with the aerial gondola to Dundurn Castle. It is recommended that the rental fees for the equipment and the charge for the gondola be set at a level sufficient to recover the direct operating costs of these elements. It has also been assumed that any ships, other than the Hamilton/Scourge, are not owned or operated by the City but are simply encouraged to moor at the Hamilton waterfront.

The potential revenues and operating costs associated with the botanical display area of the Crystal Palace have also not been included because of the lack of definition of the size and operational characteristics of this component of the development. It is recommended that admission fees be set for this area and any special botanical events in order to recover the majority of the operating costs associated with this area.

In addition to the revenue sources described

above, there will be a number of miscellaneous revenue sources including the plaza which will be used for activities such as flea markets, antique shows, boat shows, etc. It has been assumed that revenue from miscellaneous sources will total \$25,000 - \$50,000. In addition no estimate has been included for parking revenue, although in later years when demand is high, such receipts can be considerable.

On the basis of the preliminary analysis that has been completed, it is projected that the major elements of the waterfront development could generate some \$317,000 - \$540,000 in revenue towards the general site operations costs (see Table 5.4).

Table 5.3 presents a preliminary estimate of the costs that would be associated with the general management, promotion, maintenance and servicing of the waterfront site. These costs are estimated to total some \$846,000. These estimates should be viewed as being of a very preliminary nature and are based on the experience of comparable facilities. These cost estimates do not take into any account financial assistance that might be available through programs such as the Ontario Summer Youth Employment Program.

Table 5.4 presents a summary of the estimated net operating costs (based on the assumptions described above) for Hamilton Island. These costs are estimated to be in the range of \$305,000 - \$530,000.

MARKETING

As noted in an earlier section of this report, it will be important that the Hamilton Waterfront be

TABLE 5.3
GENERAL SITE COSTS

<u>STAFF</u>		
Director	\$70,000	
Program Staff (2 @ \$40,000)	80,000	
Support Staff (2 @ \$20,000)	40,000	
Maintenance Staff (interior) (2 at \$20,000)	40,000	
Seasonal Staff for tourist booth & general maintenance (10 at \$3,500)	35,000	
	265,000	
Benefits at 10%	26,000	
Subtotal		\$291,000
<u>MARKETING & PUBLIC RELATIONS</u>		
(allowance for facility specific advertising included with major components)	\$150,000	
General Administrative costs (includes office expenses, insurance telephone, supplies, miscellaneous services)	130,000	
General Site Maintenance (35 acres @ \$50,000 per acre, based on experience Toronto Islands Park)	175,000	
Allowance for Utilities (based on experience of comparable facilities)	100,000	
Subtotal		\$535,000
TOTAL		\$846,000

TABLE 5.4

SUMMARY OF OPERATING INCOME AND EXPENSES

General Site Costs (as per Table 5.3)	\$846,000
Potential Net Contribution from Major Elements	
Cine Crystal	175,000-350,000
Hamilton Scourge	50,000-150,000
Tour Boats	20,000
Bridge/Harbour Restaurants/ Retail area	67,500- 90,000
Lagoon	(30,000)
RBG Access Boats	(30,000)
Marina/Yacht Club	25,000- 50,000
TOTAL	<u>\$317,500-540,000</u>
NET COSTS (approximate) (based on assumption described in text)	305,000-530,000

actively promoted as a complete experience rather than as a series of independent components. The marketing activities for the waterfront should be directed as specifically as possible to the specific target markets that can be attracted to the development. These target markets include local and regional residents, tourists staying in Hamilton and area, tourists passing through the area particularly those en route to Niagara Falls, bus tour groups and special interest clubs and groups attracted by the components of the waterfront development. Some of the key marketing programs that should be undertaken for the waterfront are:

- o Advertisements in local and regional newspapers, directories and on radio and T.V.
- o Listings in Ontario Ministry of Tourism and Recreation publications, Festival Ontario publications and other travel trade publications.
- o Posters and brochures throughout the region and at provincial, regional and local travel information centres.
- o Billboards and directional signage in Hamilton and on Highways 6, 8, 20, 403 and the QEW.
- o Contra promotions (product for promotion) with local media and with major retailers in the area.
- o Posters and brochures in retail outlets, motels, hotels and campgrounds in the market area.

- o Special promotions to school groups, special interest groups and bus tour operators through direct mail and direct selling.
- o Special brochures and flyers on programs and events delivered to local area and regional residents.

5.2 Cost Analysis

The attached cost analysis of the project represents the best current estimate of capital costs for the project, generating a total capital cost of \$32.3 million. The following assumptions have been utilized in calculating those costs. All on-site costs associated with the development of the public components of the waterfront park have been included. Costs are included for creation of the shell space of commercial facilities such as the restaurants, concessions and marinas, but not for their finish and furnishing. No estimates are provided for plant materials within the Crystal Palace, which is estimated at a capital cost of \$7.75 million (inclusive of contingencies allowances).

No estimate for off-site improvements generated by the development of the waterfront park has been included in the total capital cost. An allowance of \$1.0 million for on-site service improvements is however included, to accommodate service pumping costs. An estimate of \$1.6 m. for the off-site road improvement costs has been identified in Section 6.

The total capital costs are exclusive of professional fees, other fees and levies, but include a 34% allowance for overhead and profit and design, escalation and post-contract contingencies.

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Richmond Hill Ontario
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HAMILTON WATERFRONT STUDY
Master Plan
Coombes Kirkland Berridge
11 Sept 85 Gross Floor Area

85971
N76 Rev 11.a
416 968 9040
223,807 m2
SID 06006

Element	Amount	Cost per m2	Total	%
1 Substructure	0			
(a) Normal Foundations	0	0.00		
(b) Basement Excavation & Backfill	0	0.00		
(c) Special Foundations	0	0.00	0.00	0 0
2 Structure	0			
(a) Lowest Floor Construction	0	0.00		
(b) Upper Floor Construction	0	0.00		
(c) Roof Construction	0	0.00	0.00	0 0
3 Exterior Cladding	0			
(a) Roof Finish	0	0.00		
(b) Walls Below Ground Floor	0	0.00		
(c) Walls Above Ground Floor	0	0.00		
(d) Windows	0	0.00		
(e) Exterior Doors & Screens	0	0.00		
(f) Projections	0	0.00	0.00	0 0
4 Interior Partitions & Doors	0			
(a) Permanent Partitions & Doors	0	0.00		
(b) Movable Partitions & Doors	0	0.00		
(c) Glazed Partitions & Doors	0	0.00	0.00	0 0
5 Vertical Movement	0			
(a) Stairs	0	0.00		
(b) Elevators & Escalators	0	0.00	0.00	0 0
6 Interior Finishes	0			
(a) Floor Finishes	0	0.00		
(b) Ceiling Finishes	0	0.00		
(c) Wall Finishes	0	0.00	0.00	0 0

7 Fittings & Equipment	0				
(a) Fittings & Fixtures	0	0.00			
(b) Equipment	0	0.00	0.00	0	0
8 Services	0				
(a) Electrical	0	0.00			
(b) Plumbing & Fire Protection	0	0.00			
(c) Heating Ventilation Air Conditioning	0	0.00	0.00	0	0
9 Site Development	23896000				
(a) General	22896000	102.30			
(b) Services	1000000	4.47			
(c) Alterations	0	0.00			
(d) Demolition	0	0.00	106.77	23896000	74
10 Overhead & Profit	2400000				
(a) Site Overhead	1800000	8.04			
(b) Head Office Overhead & Profit	600000	2.68	10.72	2400000	7
11 Contingencies	6000000				
(a) Design Contingency	3600000	16.09			
(b) Escalation Contingency	1200000	5.36			
(c) Post Contract Contingency	1200000	5.36	26.81	6000000	19
			144.30	32296000	100

Description	Trade	Quantity	Rate	Amount
<u>0 GROSS FLOOR AREA</u>				

Note: Large scale plans of areas B, E, and F were not available. These areas have subsequently not been digitized.

Area A. - Hamilton Island	163431 m2
Area B. - Dundurn Walk	
Area C. - Macassa Cove	32068 m2
Area D. - Pier 4	28308 m2
Area E. - Harbour Commission Land	
Area F. - City Connections	

<u>TOTAL GROSS FLOOR AREA</u>	<u>223807 m2</u>
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Description	Trade	Quantity	Rate	Amount
<u>9 SITE DEVELOPMENT</u>				
<u>(A) GENERAL</u>				
All earth work and edge conditions have been estimated by Stevenson/Hluchan.				
Bin wall		600 m1	2700.00	1620000
Shore protection		860 m1	830.00	713800
Dredging		117000 m3	7.00	819000
Landfill		55000 m3	4.50	247500
Rough and fine grading		163431 m2	1.00	163431

Area A. - Hamilton Island

1. Bus Drop-Off				
asphalt		3220 m2	15.00	48300
curbs to island		90 m1	20.00	1800
extra for concrete/plantings to above		120 m2	10.00	1200
2. Parking Lots				
a) Parking Lot A (195 spaces)		13431 m2	15.00	201465
curbs to islands		1800 m1	20.00	36000
trees		120 no	500.00	60000
Note: landscaping and sod included above				
b) Parking Lot B (280 spaces)		19438 m2	15.00	291570
curbs to islands		2800 m1	20.00	56000
trees		160 no	500.00	80000
c) Parking Lot C (98 spaces)		5017 m2	15.00	75255
curbs		350 m1	20.00	7000
trees		17 no	500.00	8500
3. Approach Boulevard				
signage		1s		10000
lighting		1s		20000
planters and furniture		1s		30000
paving		2500 m2	30.00	75000
4. Waterfront Plaza				
paving		7635 m2	30.00	229050
architectural features - allowance		1s		30000
large trees		10 no	750.00	7500

5. Plaza Buildings			
landscaping	1s		15000
trellises	500 m2	50.00	25000
warehouses	1500 m2	450.00	675000
information booth	1s		7000
6. Boat Launch			
asphalt	1244 m2	15.00	18660
7. Canoe and Bicycle Rentals			
canoe/boat rental area	1s		20000
8. Bridge			
bridge	1701 m2	300.00	510300
surface treatment	1701 m2	50.00	85050
details and furnishing	1s		50000
9. Bridge Restaurant			
restaurants shelled	400 m2	1000.00	400000
10. Crystal Palace Forecourt			
sculpture - donated			
flags	10 no	5000.00	50000
fountains	2 no	25000.00	50000
paving	1927 m2	50.00	96350
11 Crystal Palace (4600m2)			
1a foundations	3200 m2	100.00	320000
2a lowest floor	3200 m2	30.00	96000
2b structural floor	1400 m2	100.00	140000
2c roof structure	3200 m2	100.00	320000
3a roof glazing	3200 m2	550.00	1760000
3c wall glazing	4800 m2	400.00	1920000
3e entrances	2 no	20000.00	40000
4a interior partitions	1000 m2	50.00	50000
5a stairs	40 m1	200.00	8000
6a floor finishes	4200 m2	40.00	168000
6c wall finishes	2000 m2	10.00	20000
7a fittings and fixtures	1s		300000
7b equipment - not included			
8 mechanical and electrical	3200 m2	200.00	640000
Total cost \$5782000			

12. Palace Garden's			
flower display areas	6102 m2	30.00	183060
water features	1s		50000
lighting and water	6102 m2	4.00	24408
13. Loading Zone			
paving	1714 m2	15.00	25710
14. Island Boulevard			
reflecting ponds	1s		50000
fountains	1s		50000
sculpture	1s		50000
hedging	260 m1	40.00	10400
limestone fines	2586 m2	10.00	25860
wood curb	540 m1	12.00	6480
cedar trees	40 no	500.00	20000
15. Fountain Plaza			
fountains	1s		100000
ramps and stairs	1s		10000
limestone fines	2499 m2	10.00	24990
16. Access Drives			
gravel	1100 m1	50.00	55000
17. Childrens Play Area			
playground equipment	1s		200000
landscaping	3293 m2	10.00	32930
18. Woods			
landscaping	43305 m2	10.00	433050
trees	100 no	500.00	50000
pathways	1000 m1	30.00	30000
19. Clearings			
play area	1s		10000
picnic area	1s		10000
gardens	1s		20000
20. Wharf			
concrete pavers	1724 m2	40.00	68960
benches	10 no	400.00	4000

21. Cine Crystal			
IMAX-OMNIMAX theatre	1s		1000000
equipment	1s		1000000
screen	1s		250000
22. Harbour Restaurants			
restaurants - shelled	400 m2	800.00	320000
23. Tour Boat Deck			
ticket booths	2 no	10000.00	20000
piled deck - Stevenson/Hluchan	2040 m2	200.00	408000
washrooms	150 m2	600.00	90000
24. Hamilton Scourge Replica			
construction of replica	1s		750000
volunteer labour is assumed			
27. The Lawn			
picnic tables, barbecue grills	40 no	500.00	20000
mixed lawn and plantings	9430 m2	10.00	94300
28. Performance Area			
topsoil and sod	7167 m2	10.00	71670
29. Floating Stage			
temporary seating	518 m2	40.00	20720
stage and shell	350 m2	300.00	105000
30. Lookouts			
lookouts	330 m2	50.00	16500
31. Lagoon			
chlorination equipment and screens	1s		30000
32. Beach			
landscaping, sand etc	2200 m2	10.00	22000
33. Change Rooms			
change rooms and skate rental	50 m2	500.00	25000
34. Concession			

Description	Trade	Quantity	Rate	Amount
decked eating area		200 m2	50.00	10000
concession stands		50 m2	800.00	40000
35. Service Bridges bridges		4 no	150000.00	600000
36. Adventure Bridges rope walks, swinging bridges etc		5 no	20000.00	100000
37. South Island topsoil and plantings		5672 m2	10.00	56720
pathways		350 m1	30.00	10500
38. Water Play Area adventure equipment		1s		50000
mock-up pirate ship		1s		20000
39. North Island plantings		8055 m2	10.00	80550
pathways		900 m1	30.00	27000
40. High Point lookout		1s		10000
telescopes		1s		3000
41. West Island woods		3719 m2	30.00	111570
42. Grotto landscaping		283 m2	20.00	5660
ruins		1s		20000
43. Outer Islands trees		900 m2	20.00	18000
44. Dundurn Castle Aerial Gondola gondola		1s		1000000
terminal area		1s		10000
45. Underwater walk culvert		1s		100000

Area B. - Dundurn Walk

1. Boat Launch moorings	1s		5000
2. Floating Boardwalk Stevenson/Hluchan	600 m1	1000.00	600000
3. Water's Edge Walk limestone fines	1500 m1	30.00	45000
5. Castle Moorings allowance	1s		10000

6. FIGURE NOT INCLUDED

7. Gondola Arrival terminal area	1s		10000
-------------------------------------	----	--	-------

Area C. - Macassa Cove

1,2,3, Moorings slips (floating) - Stevenson/Hluchan	99 no	4000.00	396000
slips to piled pier	36 no	6000.00	216000
4. Boardwalk boardwalk	2053 m2	50.00	102650
5. Waterfront Development Area site preparation	11366 m2	5.00	56830
6. Central Pier included in 3.			
7. Waterfront Drive asphalt	1277 m2	15.00	19155
curbs	1280 m1	20.00	25600
8. Parking asphalt - curbs included in 7.	4136 m2	15.00	62040

9. Marina Storage
by others

10. Steps

limestone fines

510 m2 15.00 7650

preserved wood risers

192 m1 20.00 3840

Area D. - Pier 4

1. Pier 4 Walk

asphalt paths

780 m1 45.00 35100

bollards

17 no 200.00 3400

2. Lookout

paving

810 m2 25.00 20250

3. Treed Bank

topsoil and plantings

8424 m2 10.00 84240

trees

15 no 500.00 7500

4. Wading Fountain

pool bottom and edge

631 m2 8.00 5048

water sculpture

1s 30000

5. Leander Lawn

topsoil and sod

7036 m2 10.00 70360

6. Leander Aquatic Centre

allowance for classrooms and

concessions

1s 100000

7. Parking Lot (74 spaces)

asphalt

2405 m2 15.00 36075

curbs

630 m1 20.00 12600

8. Dinghy Sailing Area

launch area - included in moorings
to Macassa Cove

Area E. - Harbour Commission Land

Guise St./Leander Drive

make good	1200 m1	20.00	24000
trees	240 no	750.00	180000
grassed verge	1s		10000
fencing	1s		40000

TOTAL 9(A) GENERAL 22896107

(B) SERVICES

Water - fresh	1s	75000
- lake	1s	25000

Drainage - storm	1s	340000
- sanitary	1s	100000
- lift station	1s	35000

Power	1s	100000
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Surface treatment - water	1s	25000
- lighting and outlets	1s	300000

TOTAL 9(B) SERVICES 1000000

(C) ALTERATIONS

TOTAL 9(C) ALTERATIONS 0

(D) DEMOLITION

TOTAL 9(D) DEMOLITION 0

TOTAL 9 SITE DEVELOPMENT 23896107

Description	Trade	Quantity	Rate	Amount
<u>10 OVERHEAD & PROFIT</u>				
<u>(A) SITE OVERHEAD</u>				
General contractors site expenses including access, site accommodation & protection, temporary services, cleanup, supervision, insurances, + bonds, equipment, winter conditions, etc.	1s			1800000
				<u>1800000</u>
				<u>TOTAL 10(A) SITE OVERHEAD 1800000</u>
<u>(B) HEAD OFFICE OVERHEAD & PROFIT</u>				
General contractor's head office overhead and profit	1s			600000
				<u>600000</u>
				<u>TOTAL 10(B) HEAD OFFICE OVERHEAD & PROFIT 600000</u>
				<u>TOTAL 10 OVERHEAD & PROFIT 2400000</u>

11 CONTINGENCIES

(A) DESIGN CONTINGENCY

Design contingency for changes to the project during the design phase. This has been set to reflect the very preliminary nature of the design

1s 3600000

TOTAL 11(A) DESIGN CONTINGENCY 3600000

(B) ESCALATION CONTINGENCY

Escalation contingency for cost increases due to inflation for approximately 12 months

1s 1200000

TOTAL 11(B) ESCALATION CONTINGENCY 1200000

(C) POST CONTRACT CONTINGENCY

Post contract contingency for changes during the construction period to allow for extra costs caused by site conditions, changes made by + consultants, users, regulatory bodies, etc.

1s 1200000

TOTAL 11(C) POST CONTRACT CONTINGENCY 1200000

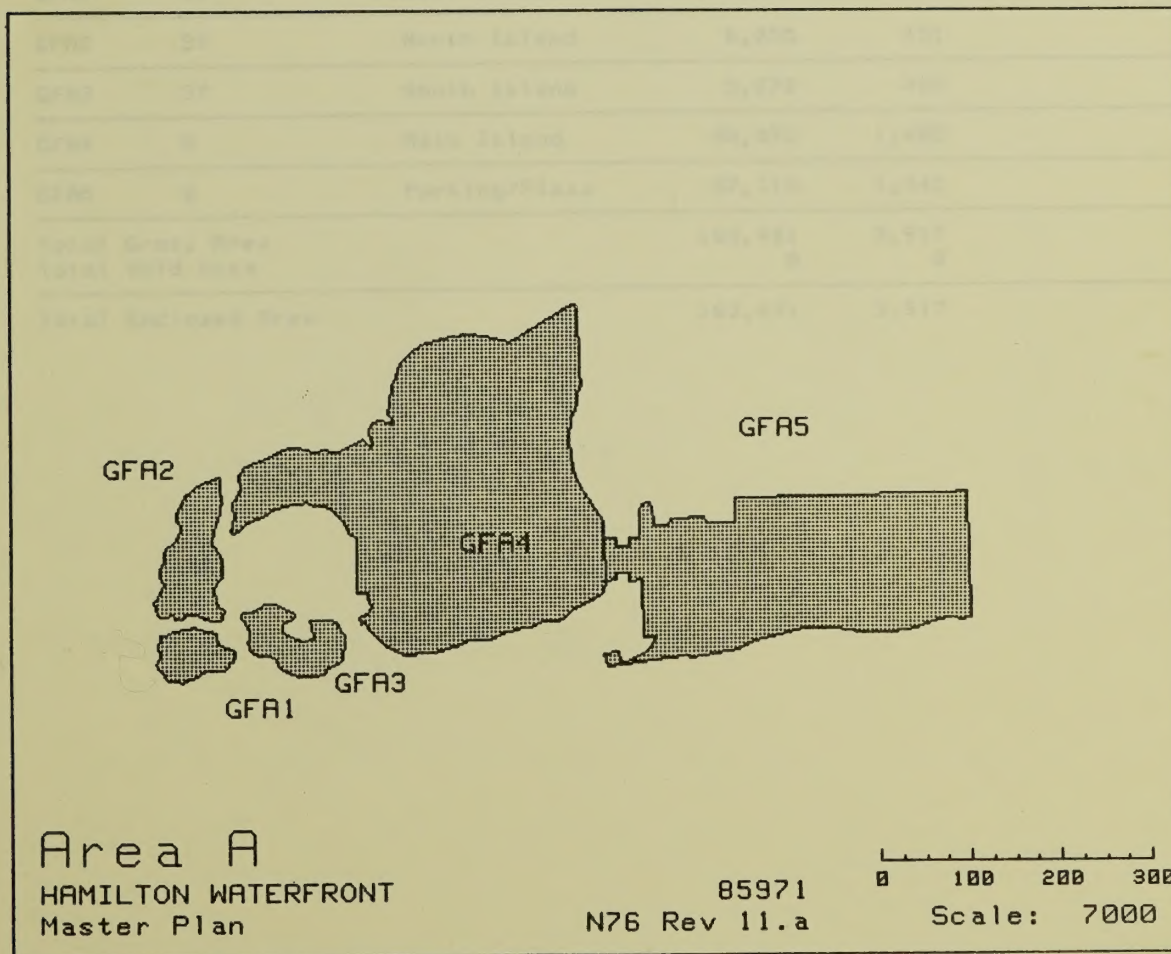
TOTAL 11 CONTINGENCIES 6000000

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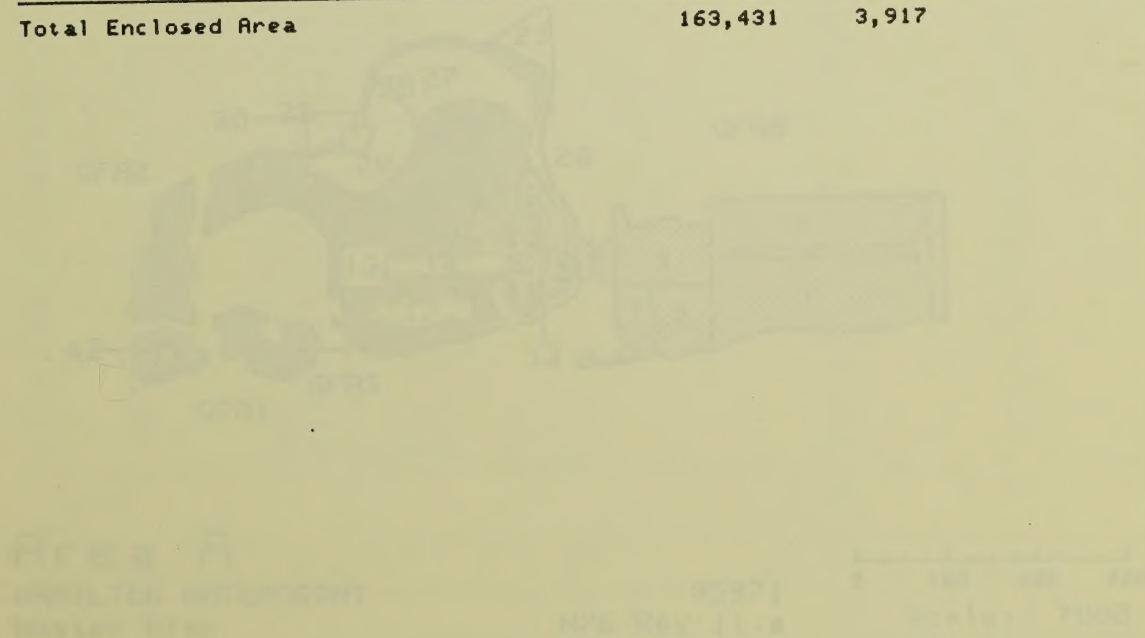
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Y-scale =1000.000



Digit Label	Arch Label	Description	Area	Perimeter
GFA1	41	West Island	3,719	243
GFA2	39	North Island	8,055	451
GFA3	37	South Island	5,672	395
GFA4	0	Main Island	88,872	1,485
GFA5	0	Parking/Plaza	57,113	1,343
Total Gross Area			163,431	3,917
Total Void Area			0	0
Total Enclosed Area			163,431	3,917

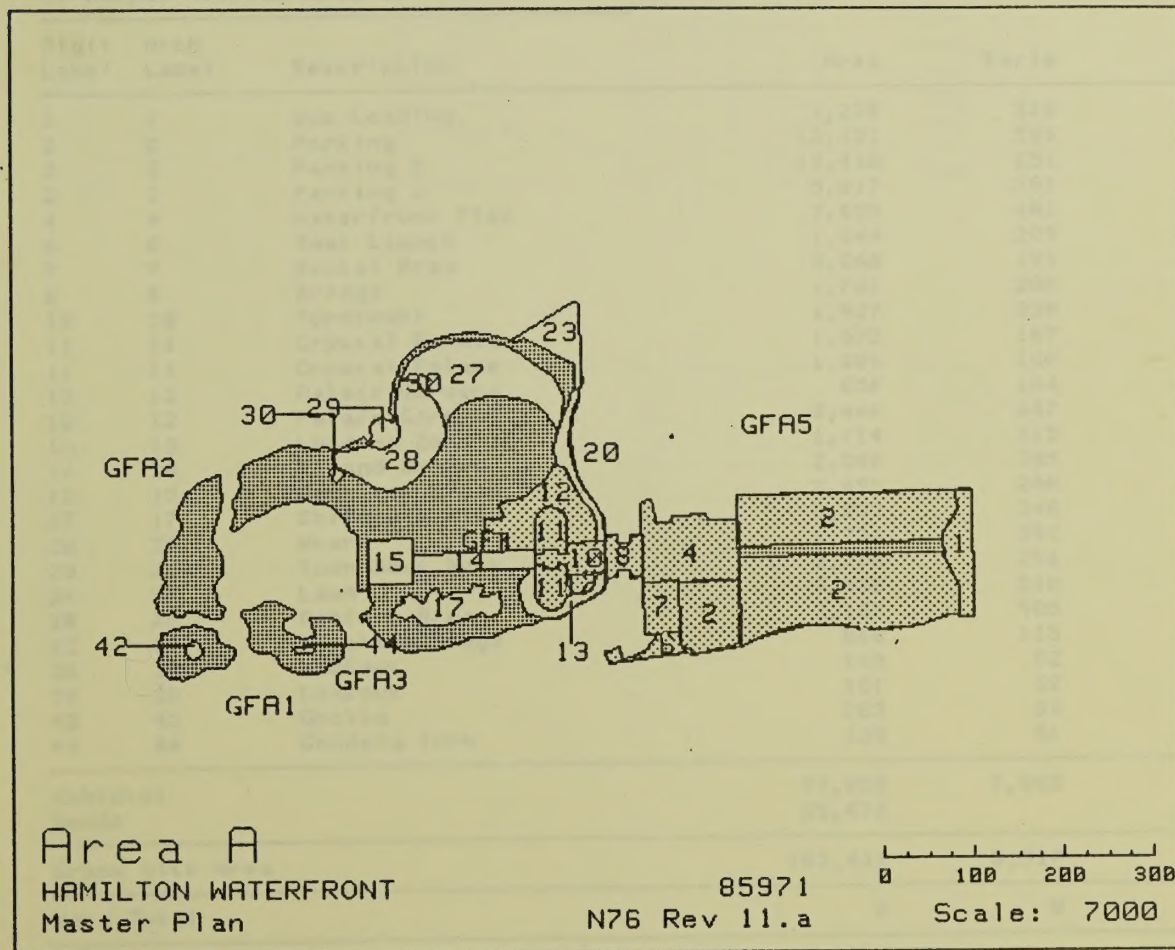


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X-scale = 1000.000

Y-length = 1000.0

Y-scale = 1000.000



** Output **:Plan-Area A

Digit Label	Arch Label	Description	Area	Perim
1	1	Bus Loading	3,220	326
2	2	Parking	13,431	586
2	2	Parking b	19,438	651
2	2	Parking c	5,017	281
4	4	Waterfront Plaz	7,635	401
6	6	Boat Launch	1,244	229
7	7	Rental Area	2,260	193
8	8	Bridge	1,701	206
10	10	Forecourt	1,927	238
11	11	Crystal Palace	1,573	167
11	11	Crystal Palace	1,606	166
12	12	Palace Gardens	656	104
12	12	Palace Gardens	5,446	447
13	13	Loading Zone	1,714	313
14	14	Island Boulev	2,586	305
15	15	Fountain Plaza	2,499	200
17	17	Childrens Play	3,293	340
20	20	Wharf	1,724	392
23	23	Tour Boat Deck	2,778	294
27	27	Lawn	9,430	510
28	28	Perform Area	7,167	405
29	29	Floating Stage	868	115
30	30	Lookout	168	52
30	30	Lookout	161	52
42	42	Grotto	283	59
44	44	Gondola Term	133	51
Subtotal			97,958	7,083
Woods			65,473	
Gross Site Area			163,431	3,917
Void Total			0	0
Enclosed Area			163,431	3,917

GFA	perimeter	1455.6 m1	area	32068.0 m2
Less 4	perimeter	602.2 m1	area	-2053.6 m2
Less 5	perimeter	632.6 m1	area	-11366.1 m2
Less 7	perimeter	835.1 m1	area	-3843.4 m2
Less 8	perimeter	227.3 m1	area	-1276.9 m2
Less 8	perimeter	366.3 m1	area	-2859.7 m2
Less 9	perimeter	286.5 m1	area	-1627.8 m2
Less 10	perimeter	120.7 m1	area	-263.7 m2
Less 10	perimeter	101.4 m1	area	-246.4 m2
TOTAL	PERIMETER	4627.7 m1	AREA	8530.3 m2

GFA	perimeter	855.9 m1	area	28308.2 m2
Less 1	perimeter	89.5 m1	area	-631.8 m2
Less 2	perimeter	86.2 m1	area	-418.6 m2
Less 2	perimeter	84.1 m1	area	-392.5 m2
Less 3	perimeter	380.4 m1	area	-8424.8 m2
Less 5	perimeter	373.0 m1	area	-7036.5 m2
Less 7	perimeter	296.6 m1	area	-2405.8 m2
Less 6	perimeter	359.5 m1	area	-2865.7 m2
TOTAL	PERIMETER	2525.2 m1	AREA	6132.6 m2

Area B
HAMILTON WATERFRONT
Master Plan

NOV 1971

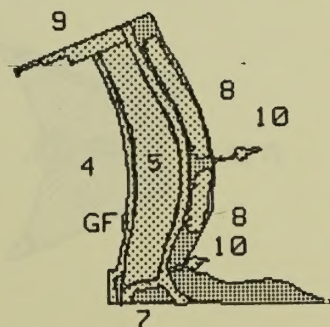
DATE 7/8/71

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Y-scale = 976.085



Area B

HAMILTON WATERFRONT
Master Plan

85971

N76 Rev 11.a

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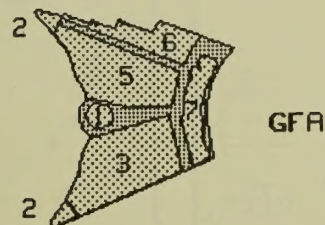
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Area D

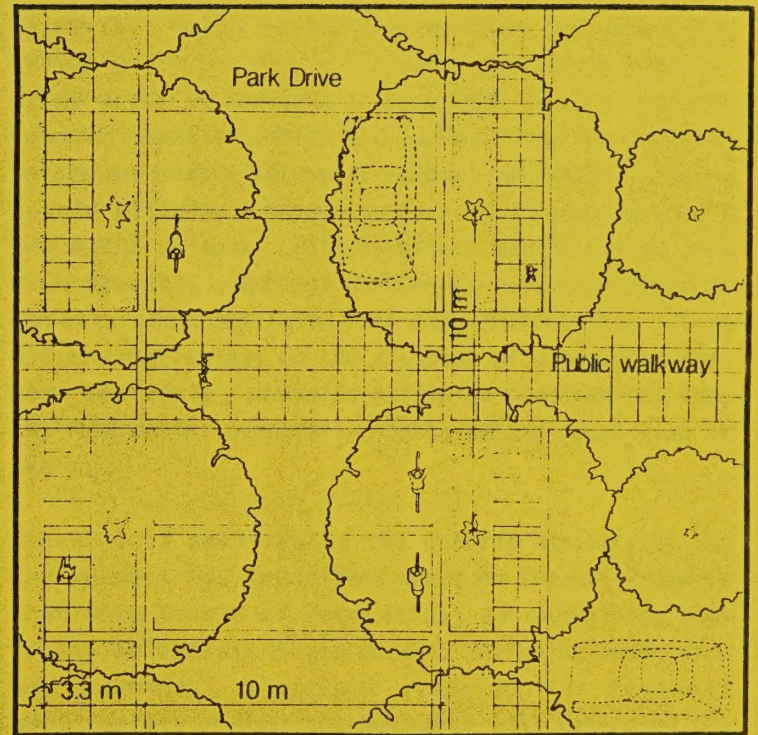
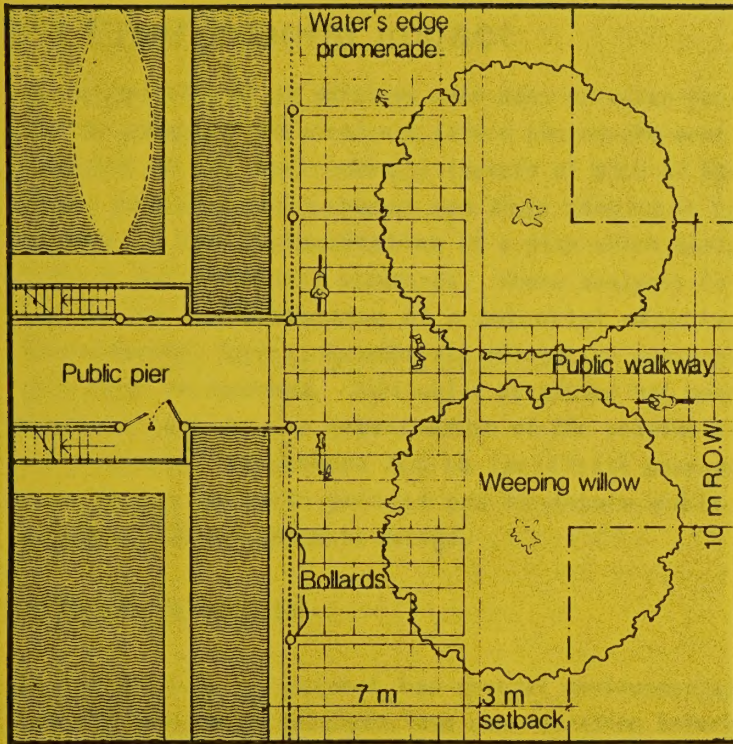
HAMILTON WATERFRONT
Master Plan

85971

N76 Rev 11.a

0 100 200 300

Scale: 7000



Traffic and Environmental Impacts 6.

6.1 Environmental Impact

Any alteration of an existing land mass or water body has the potential to adversely affect the environment. Analysis of the environmental impacts of each of the three development schemes has been completed to facilitate the implementation of a plan which meets today's environmental standards. Where analysis has led to the identification of a potential negative environmental impact, appropriate mitigative measures have been recommended. Particular attention has been given to meeting the requirements of the provincial Environmental Assessment Act to facilitate passage through the approval process and to ensure public acceptance of the proposed design.

ENVIRONMENTAL BASELINE

The study area at present has several environmental concerns that must be taken into consideration before the analysis of the impacts of development are investigated. The Lax Property and, to some extent, surrounding land masses are poorly constructed to withstand the wave action in the harbour. The result has been a loss of valuable property due to erosion and an increase in the sediment input to a harbour already receiving high sediment loading.

According to Ontario Ministry of the Environment and Federal Fisheries officials, water quality in Hamilton Harbour has improved during recent years, but many

parameters still exceed the maximum concentrations suggested in the province's Water Quality Objectives. Large areas of the harbour have been found to contain concentrations of chloriform bacteria far in excess of levels acceptable for water contact recreation. Areas low in dissolved oxygen have been documented within the water column. This restricts habitation by many fish species. Harbour sediments have been found to contain elevated levels of many pollutants. This places restrictions on the disposal of dredgeate, and, more seriously, promotes uptake of contaminants into the food chain, eventually contaminating sport fish in the bay.

Recent soil sampling by the Ontario Ministry of the Environment has identified areas on the Lax Property that were devoid of vegetation, as containing high levels of certain trace metals, including lead, zinc and cadmium. A current study by the Regional Municipality of Hamilton-Wentworth will determine the extent of soil contamination and any problems created by metals being leached into the harbour. Results of this study are expected by October, 1985.

In its present state, the environmental quality of the study area is in need of improvement. Effort is needed to control erosion, remove metal contaminated soil and improve the surrounding water quality. A development plan that assumes these responsibilities in its design will ultimately benefit the harbour environment as a whole.

6.2 TRAFFIC IMPACT

An assessment was undertaken of the traffic impacts and improvements that might be associated with the development of the Hamilton Waterfront. The following list of potential improvements is described in detail and indicates those improvements considered necessary for the master plan.

1. North End Local Traffic Control Plan

The City has proposed a local traffic control plan for the North End. It is the conclusion of this study that such a plan should be adopted to protect the neighbourhood against site generated traffic. These modifications essentially sever the through functions of Bay St. just north of Simcoe St. By also truncating MacNab St. north of Strachan St., traffic infiltration through the westernmost portions of the North End neighbourhoods, adjacent to the site, will be minimized. One result of these measures will be increased reliance on Strachan St. between Bay and James Streets. The severance of Bay St. does however make more difficult any connection on local streets between the northern and southern parts of the waterfront area.

2. Widen/Upgrade Strachan Street - Bay to John

Strachan St. has the potential to act as a distributor of site-generated traffic to north/south

streets. This would involve widening and upgrading Strachan St. to a nominal 11m (36 foot) cross-section which could function as a wide 2-lane road with on-street parking at mid-block segments and provide exclusive turning lanes at key intersections. In addition, the relatively short segment of Bay St. between Strachan St. and the site should be widened to accommodate four traffic lanes. Consideration should be given to altering traffic control regulations along Strachan St. to provide additional priority for east/west flow through the James and Bay intersections.

3. Remove Jog in Dock Service Road

The Dock Service Road should be realigned and upgraded in the vicinity of Catharine St. to form a through road with Guise St. Separate turning lanes and improved geometrics to accommodate truck turning movements would be provided on all intersection approaches. This jog currently represents an unnecessary impediment to harbour-related truck movement and reduces Dock Service Road's usefulness as a clear and simple alternative to Burlington Street.

4. Construct Continuous Waterfront Drive

The existing terminus of Leander Dr. should be connected through to Bay St. in the Simcoe St. environs. A nominal two-lane width of 10m ± (33 feet) should suffice. Speed bumps and other control

mechanisms are also appropriate for this street, to reduce traffic to 10 km/h.

5. Widen/Upgrade Guise Street

Guise St. and Leander Dr. should be upgraded and widened between the site and the Dock Service Road. In association with the removal of the Dock Service Road jog, this improvement would provide a strong northern access to the site. A generous two-lane cross-section (11m +) should suffice.

6. Widen/Upgrade Dock Service Road

With the Hamilton Island alternative, only improvements in the geometrics around the north-east corner of Eastwood Park and on the Burlington St. intersection approaches are envisaged. When further development takes place on the Harbour Commissioners side, a widening to four lanes is recommended for the future Dock Service Road/Guise Street corridor.

The total costs of the proposed road improvements are approximately \$1.6 m. These estimates do not include costs of the waterfront drive, parking and internal service road costs which are included in the project costs. No acquisition costs are included.

The Master Plan has considered the future integration of the proposed industrial perimeter road into the current proposals. The perimeter road is an approved element of City and regional official plans,

but no timing for its implementation has been established. In the absence of that time frame, the master plan has attempted not to place any major impediments in the route of the proposed alignment. However, the existence of an active, occupied waterfront must have an impact upon the future determination of a final design for the proposed road. The route along the water's edge north of the C.N. Yards would be difficult to undertake without significant impact on Hamilton Island. At such time as more detailed design of the road is commenced a study of the feasibility of alternative alignments to the south or over the C.N. Yards should be undertaken. Such a study should also consider the future development potential and waterfront relationship of the C.N. Yards, whose attractiveness for re-use will be greatly increased by implementation of the Master Plan.

The proposed parking provision appears adequate for the proposed uses. However the uncertain demand for tour buses, service vehicles and large-size recreational vehicles suggests that the City consider acquisition of the area south of parking lot 2(c) for future expansion.

Concept Analysis

Geomorphology

Containment or removal of contaminated fill from the Lax property will be an integral component of the development scheme. Removal and disposal methods will depend on studies currently underway to determine the extent of contamination.

The creation of the lagoon and surrounding islands creates additional edges which are open to erosion from wave action. Measures to mitigate the erosion will include rip rap and armour stone on both the newly created exposed shores and on existing exposed shores which are currently eroding and adding a sediment to the bay. See Plan 6.1 for edge treatment proposals.

Hydrology

The creation of an island out of Lax should not significantly alter water currents in the harbour as a whole but should improve local circulation in Macassa Cove.

Maintenance of an overall harbour volume is an integral component of promoting its function in sewage assimilation. The scheme 1 will remove approximately 53% more material from the harbour than is added as fill. An overall increase in harbour volume will

result from each of the three development concepts helping to maintain its assimilative function.

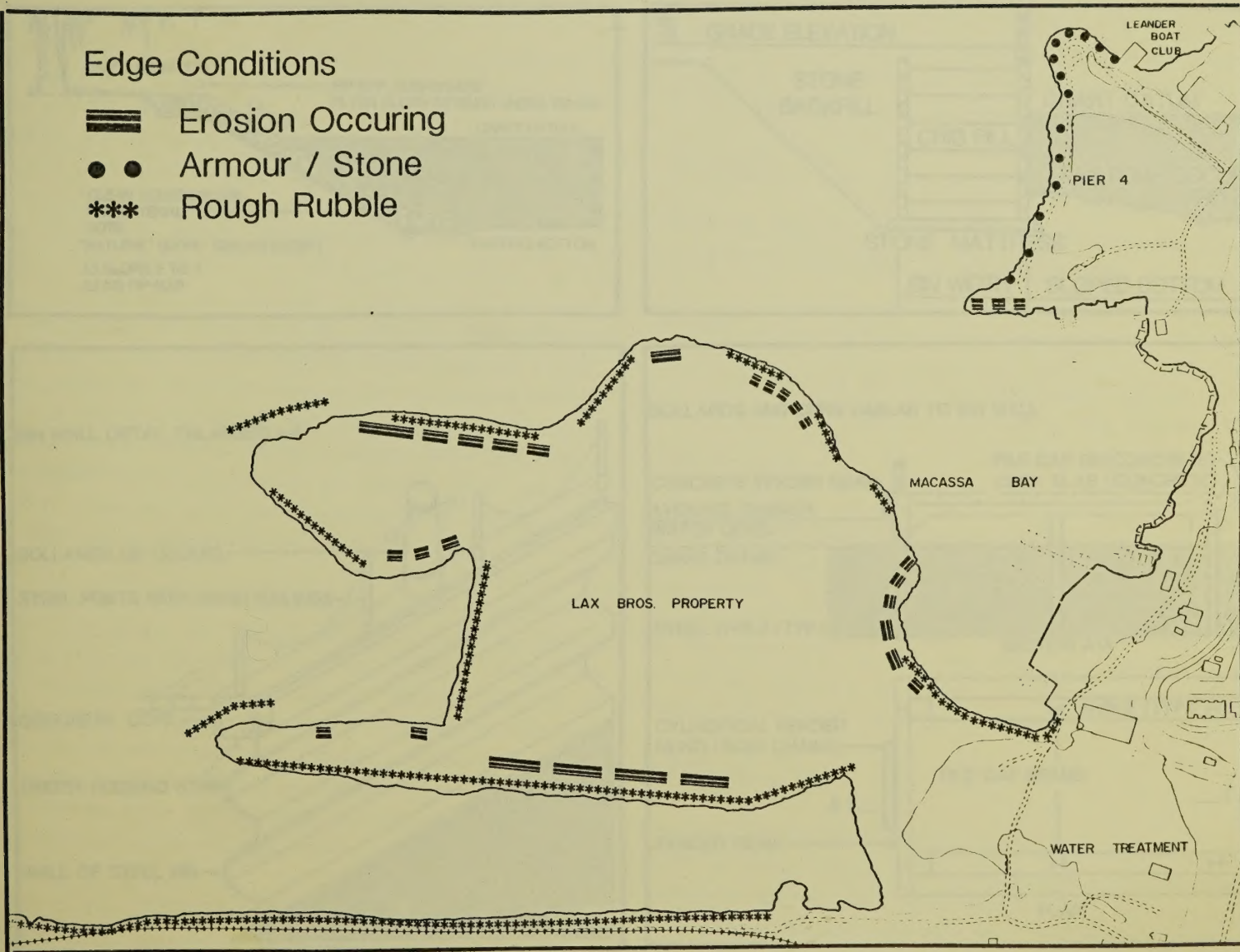
Landfilling activities will occur during the creation of the lagoon to the extent of approximately 55,000m³. The scheme also involves additional landfilling for the creation of the marina facilities in Macassa Cove. The effects of landfilling on long-term water quality should be monitored during construction but will be minimized in all cases by the use of uncontaminated fill. Localized, short-term increases in turbidity can be expected as a result of landfilling activities and should be monitored to ensure that unreasonable levels are not occurring.

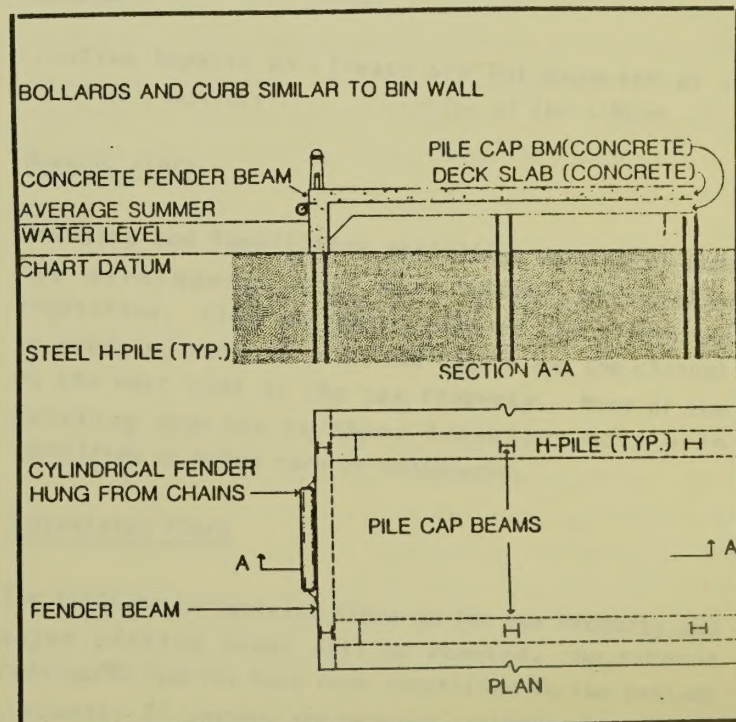
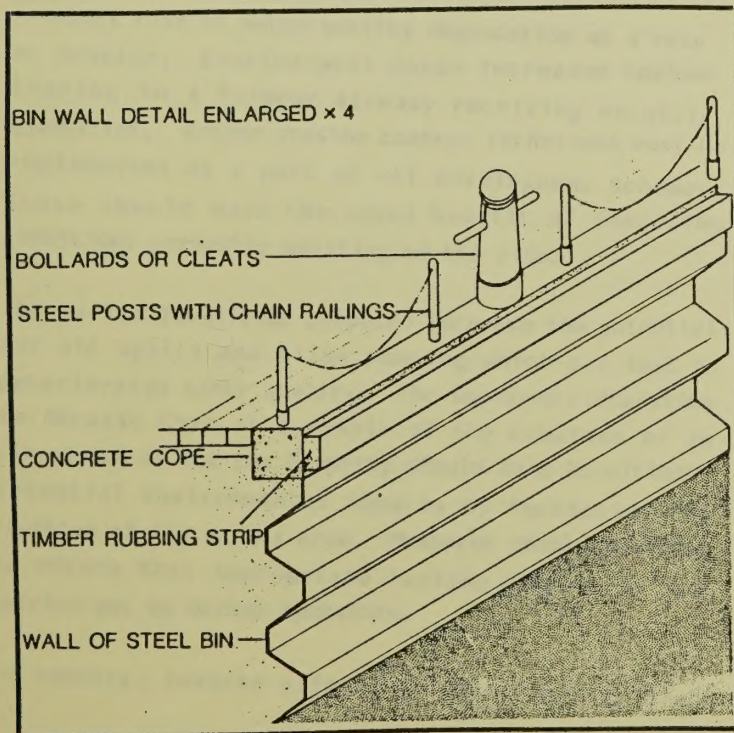
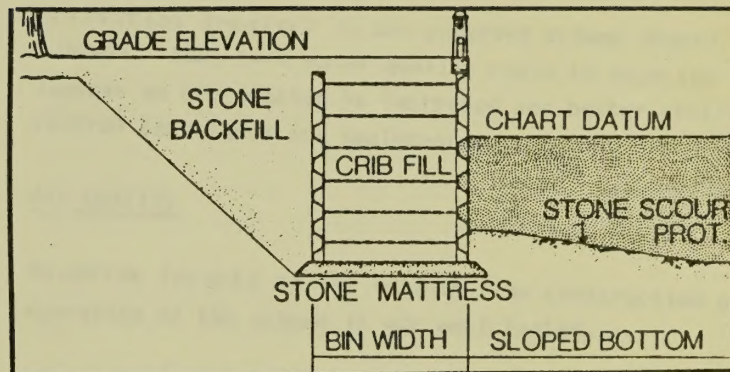
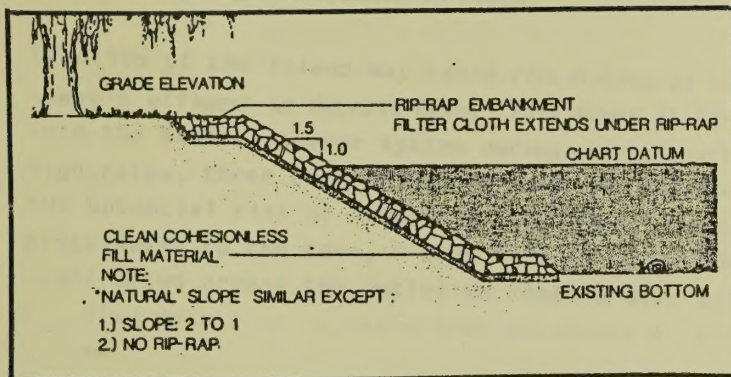
The volume of dredging involved is approximately 117,000m³ during the construction phase of all three development schemes. Dredging will be necessary in the creation of the lagoon and the marina facilities to provide adequate depth for boats and to maintain water quality. Dredging of these areas may result in slight, localized increases in turbidity, suspended solids, and contaminants as sediments are resuspended. Dredgeate is unlikely to be suitable for open water disposal. Dredgeates must be tested for contaminants and disposed of appropriately. Consideration may be given to containing dredgeate and the metal contaminated fill from the Lax Property in an on-site structure.

A storm sewer outlet, currently located at the base of

Edge Conditions

-  Erosion Occuring
-  Armour / Stone
-  Rough Rubble





the Lax Property will remain in place.

Creation of the island may cause circulation of the sewer's effluent to Macassa Cove. This sewer is tied into the sanitary sewer system during exceptionally high rains, three or four times a year. To minimize the potential risk of industrial pollutants being distributed to the cove, a boom barrier should be constructed around the outlet to contain oils and floating debris. This has been done elsewhere in the harbor.

The creation of the small islands introduces the greatest risk of water quality degradation as a result of erosion. Erosion will cause increased sediment loading to a harbour already receiving excessive quantities. Proper erosion control techniques must be implemented as a part of all development schemes. These should have the added benefit of improving conditions presently existing at the site.

The marina facilities proposed increase the potential for oil spills and bilge pumping which can lead to deteriorated water quality. The improved circulation in Macassa Cove as a result of the creation of an island out of the Lax Property should help to mitigate potential environmental impacts by increasing the flushing of the marina area. Measures should be taken to ensure that appropriate fueling procedures are carried out by marina operators.

In summary, adverse effects on water quality from

activities involved in the proposed scheme should be minimal. Long-term water quality could be expected to improve as circulation is increased and better erosion control techniques are implemented.

Air Quality

Negative impacts on air quality from construction or operation of the scheme is not anticipated.

Climate

Negative impacts on climate are not expected as a result of construction or operation of the scheme.

Aquatic Flora

Dredging and landfilling activities associated with the development will have effect on aquatic vegetation. Minor macrophyte beds will be eliminated in dredging Macassa Cove, the lagoon and the channel on the west side of the Lax Property. None of the existing species in these locations have been identified as being rare or endangered.

Terrestrial Flora

The existing terrestrial flora on the Lax Property and major parking areas will be removed. No rare or endangered species have been identified in the present community of shrubs and grasses. Landscaping of the

property will improve its aesthetic appeal and will also reduce erosion of the current shrub covered areas.

Aquatic Fauna

Landfilling and dredging activities will reduce the habitat available to warm water fish species to a certain extent by reducing the amount of available littoral zone. The elimination of macrophytes by these activities can be expected to reduce the abundance of the invertebrate food source of many fish species. There is no evidence, however, to suggest that the study site is of particular significance to fish in terms of spawning, nursery areas or as a major habitat.

Chlorination of the lagoon to accommodate swimming will effectively remove this area as habitat for aquatic fauna and flora. The additional littoral edge created by the reconfiguration of existing lagoons and creation of new islands will compensate for this loss.

Excessive chlorine leakage from the lagoon swimming area may pose some problem to aquatic fauna within the immediate area. Monitoring of the water adjacent to the lagoon should be implemented to ensure that serious problems do not occur.

Development designed to increase the habitat available to fish can be incorporated into all of the schemes.

Rip rap used in erosion control is a good point of colonization of periphyton and will result in increased invertebrate populations which are a major food source for many fish species. Extension of small underwater points of rip rap into the harbour will increase the food and habitat available to fish.

The construction of the lookout platform and marina docks in all schemes and the floating boardwalk, will artificially replace some of the cover for fish which has been lost due to other activities. Artificial reefs or rubble have been used successfully under docks to increase fish habitat and concentrate fish. Fisheries enhancement projects could be a joint venture with interested local sporting clubs.

Terrestrial Fauna

The present configuration and isolation of the study area offers some nesting habitat to a variety of bird species. Various species of waterfowl also may occur within the study area.

The implementation of the scheme will alter the present habitat and cause a shift to wildlife species more tolerant of urban activities, but not necessarily a reduction in overall numbers or diversity. The landscaped area and new islands should enhance the diversity of bird species found on the Lax Property by the creation of a variety of vegetative communities.

The scheme involves leaving an open lawn area on the

lax property and open space on Pier 4. Large areas of open space have been found to be responsible for an overabundance of Canada Geese in many parklands. Excessive numbers of geese can foul parkland with feces, making it less desirable for human leisure activities. The only successful control technique used in Toronto parkland so far involves the removal of both eggs and adult flightless birds.

The opening of food concessions in close proximity to the harbour is included in all development plans and may cause problems with gulls. Excessive numbers of gulls can foul buildings, boats and picnic areas as well as harassing picnickers by begging for handouts. Experience in Toronto parklands has found that monofilament netting over food outlets and picnic areas can deter gulls from using these areas. Loafing of gulls can be discouraged by erecting visual barriers such as hedgerows or fences, obstructing their view of the horizon. Gulls frequently foul rooftops or light standards when roosting. This can be discouraged by installing Rixalite (tape with protruding wires) on these areas. Completely enclosed trash receptacles that are emptied frequently will also deter gulls from an area.

Noise

Noise levels will be elevated during the construction and operation of the development.

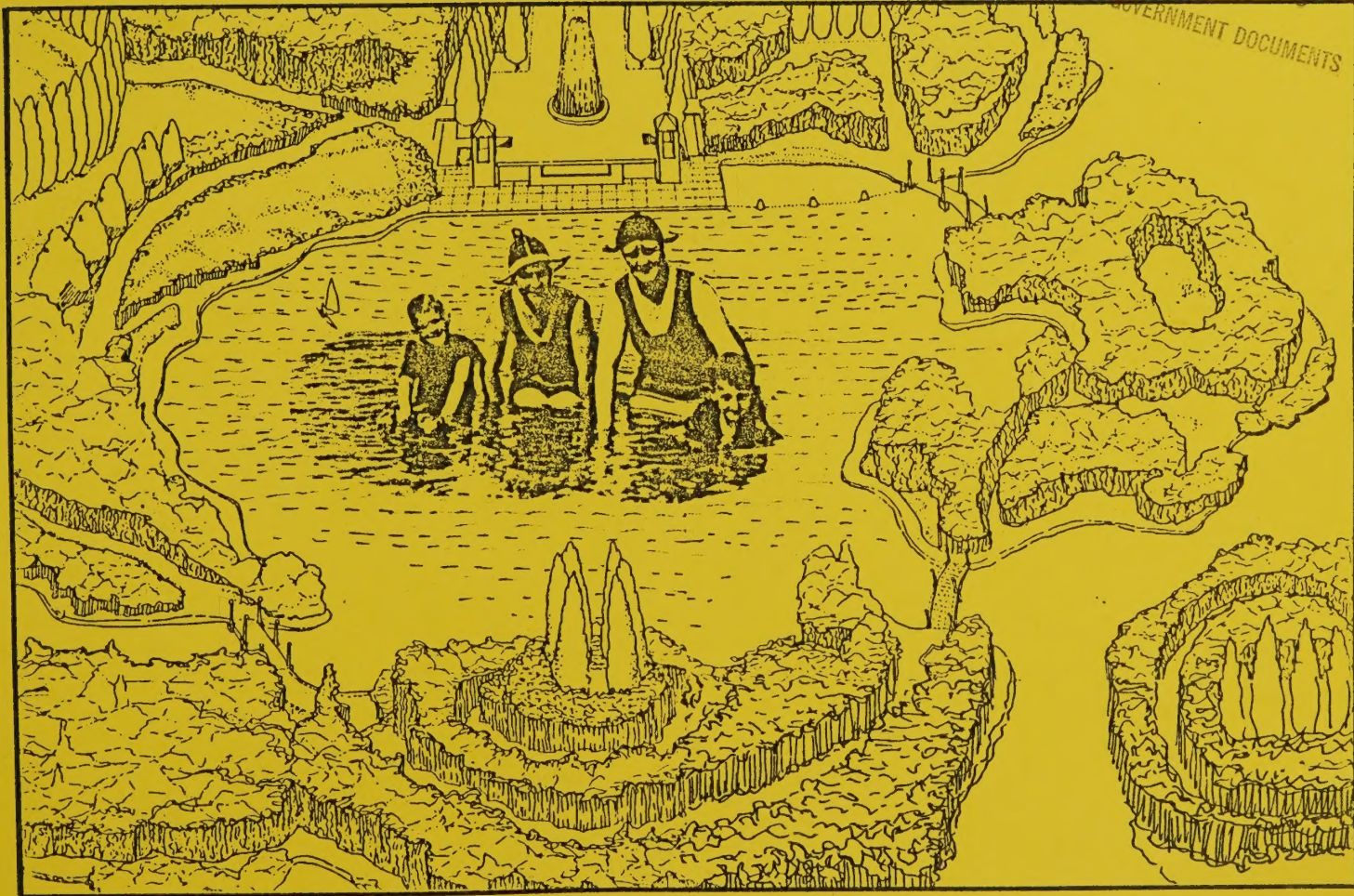
The scheme involves active facilities which are likely to draw large crowds. The expansion of present marina facilities in both schemes will lead to an increase in noise from the increased traffic flow and boating activities. The bandshell proposed will also cause an elevation in noise levels when it is being used.

Mitigative measures to reduce the noise impact of these activities should include: landscaping around the bandshell or amphitheatre to trap noise; restriction of "noisy" events; restriction of performance to certain days and hours; and, if noise is thought to be a serious problem, some form of barrier. During the construction phase of the development, the operation of heavy machinery should be restricted to daylight hours.

Summary

1. Adverse effects on water quality from activities involved in the proposed development should be minimal. Local, long-term water quality could be expected to improve as circulation is increased and better erosion control techniques are implemented.
2. The development will result in an overall increase in harbour volume, maintaining or slightly improving the ability of the harbour to assimilate sewage.
3. Minor changes in the species composition of terrestrial flora and fauna can be expected.
4. No rare or significant species of flora or fauna have been identified in the study area.
5. No areas of significance to fish or wildlife species in terms of reproduction, feeding or habitat have been identified in the study area.
6. Increased noise levels can be expected with the proposed development, but mitigation is possible.

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